

THE HOUSING OF PILGRIMS IN AL-MADINA: ISLAMIC PRINCIPLES AND USER SATISFACTION

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**PH.D THESIS SUBMITTED TO THE DEPARTMENT OF
ARCHITECTURE UNIVERSITY OF NEWCASTLE UPON TYNE,
U.K**

**Newcastle Upon Tyne
October 1998**

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Abstract

Where about 2 million people perform *Hajj* and visit the Holy places in Makkah and al-Madina. Pilgrimage is considered one of the largest event in the world. The increase in the pilgrims' number does not follow with an increase in the accommodation and built environment needs. As a result, pilgrims find themselves in a built environment which is not designed according to their satisfaction level. The specific core proposition of this study is to analyse the results of pilgrims' satisfaction with all aspect of their existing accommodation as a micro built environment, as well as with their neighbourhood and the city of al-Madina as a macro level of the built environment. At the accommodation level the analysis involves testing the pilgrims satisfaction with their accommodation in relation to their satisfaction with its location and accessibility, its exterior characteristics, its internal characteristics, its environmental conditions, its infrastructure and services, its socio-cultural environment, its economic condition and its aesthetic value. At the neighbourhood level the analysis contains the pilgrims satisfaction with the neighbourhood location and accessibility, its internal characteristics, its roads and pedestrian walkways, its public facilities and services, its socio-cultural environment and its aesthetic values. At the city level the analysis includes the pilgrims satisfaction with the Prophet's City's accessibility, its internal characteristics, al-Haram, the city roads and pedestrian walkways, the public facilities and services, the socio-cultural environment, the aesthetic values and general satisfaction with the Prophet's City's. The purpose of the pilgrims being in al-Madina is to perform their religious duties, this relates strongly to the effect of Islamic principles on the degree of satisfaction with the built environment, and it tested. The primary method of gathering the data was through a structured interview of 450 pilgrims divided proportionally into 11 representative nationalities based on the pilgrims' language and geographical area. The questionnaires which were carried out in 8 languages and was divided into four main sections: general information, degree of satisfaction, comparison of the existing accommodation with the newly developed buildings in al-Haram area, and personal information. The survey was conducted in 80 building as a sample of the 1,600 buildings which had been issued a pilgrim housing permits during the year of survey (pilgrimage season 1996 AD/ 1416 AH). To investigate the accommodation's general characteristics, a statistical and visual analysis of 50 % (40 buildings) of these building was carried out in four levels: the building, the bedroom, the toilet and the kitchen. Theses analyse are mainly focused on comparing these four levels in terms of the two demonstrated buildings styles: the hotel style and the apartment style.

Analysis of the pilgrims' satisfaction with their accommodation shows that the variables related to the internal characteristics of the accommodation were the aspects that have the lowest satisfaction among pilgrims. Also, they show a low level of satisfaction with most of the infrastructure and services which are attributed to the increase of the number of pilgrims. The overcrowding of the accommodation is reflected in a very low level of satisfaction with privacy as one of the accommodation's socio-cultural environment aspect.

At the neighbourhood level the analysis indicates that a considerable number of visitors were satisfied with both the number of buildings and their height within their neighbourhood, but significant differences were found between areas close to al-Haram and those which are quite faraway. However, most pilgrims seemed to be disappointed with the neighbourhood pedestrian walkway sizes, layout, shade and lack of separation from the roads

The investigation of the degree of satisfaction with aspects of the Prophet's City shows that the most satisfactory aspect of the city is the development of al-Haram.

A very large majority of the respondents were satisfied with roads to the city, the city airport services and the city visitors' reception centre facilities. Most of the pilgrims were fairly dissatisfied with the city's public transport system, however, the most frequent problems that pilgrims faced with among the public facilities and services were with the public telephone services and the post offices.

In ordered to seek a better understanding of user space relationships, the study includes testing the relationship between the pilgrims level of satisfaction and the real characteristics of their accommodation. Also this study examines the effect of nationality on the degree of satisfaction with the accommodation in general, the bedrooms, the toilets and the kitchens. A study of changes in

accommodation characteristics by nationalities shows that most characteristics changed from one nationality to another. Regardless of the condition of the sample building, the study shows that differences among nationalities are mainly related to the income level of their pilgrims.

The implications of these findings for policies are discussed for the bedrooms, the toilets, the kitchens, the building in general and the city/ neighbourhood level. The study demonstrates that privacy is still considered the most important Islamic principle affecting the pilgrims' attitude toward their accommodation. To achieve an acceptable level of privacy within the room, the study recommends that the number of users should be 6 pilgrims per room. A study of the average satisfaction with the number of toilets by the number of pilgrims per room resulted in a recommendation for 6 people per toilet in order to achieve an acceptable level of satisfaction with the toilet. For the control of toilet cleaning, maintenance and convenience of toilets for pilgrims, the study indicates that toilets should be within the control and accessibility of the room occupiers. At the kitchen level the study suggests that activities such as cooking food should be avoided near the sleeping area for fire safety, as well as, pollution control. Accordingly, the kitchen activities can be divided into a room kitchenette for the safer activities and a service kitchen where the food could be prepared by the accommodation staff with appropriate fire safety controls. The implications related to bedrooms, toilets and kitchens suggested that the hotel style accommodation, with a small room size for 6 people, is the more appropriate one for the pilgrims since the services such as a toilet and a kitchenette are within the room layout. The main recommendation at the neighbourhood and the city level suggests that pilgrimage accommodations should be kept as close as possible to the Prophet's Mosque. However, a good schedule of regular public transportation should be considered for the future to allow the pilgrims to live outside the city centre, yet reaching al-Haram for the five daily prayers. Also, for the safety of pilgrims, the study recommends, that the central area be pedestrianised, with only limited provision for public or delivery services. Moreover, the cleanliness at the neighbourhood and city level should be maintained for the health and aesthetic value of the al-Madina built environment.

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Acknowledgement

Many people have provided advice, encouragement, assistance and resources throughout my PhD study; I am and will always be grateful to them.

I would like to express my deepest thanks to his Royal Highness Prince Sultan Bin Abdulaziz, the Minister of Defence, for his kind agreement for the author to proceed in his study. I convey my gratitude to Royal Highness Prince Abdulmajed Bin Abdulaziz, the governor of al-Madina, and his deputy, Mr Abdulah al-Faez, for their support and encouragement during the field work of this study. My thanks are extended to my college in the Ministry of Defence for their support.

My deepest thanks to Dr. Graham Tipple for his valuable advice and unfailing guidance as the supervisor of this thesis. He has always been a most generous and understanding mentor, and during our hours of discussion together he has provided stimulating ideas which provoked fresh avenues of inquiry and interpretation. My thanks go also to Dr Adenrele Awotona, My former supervisor, for his assistance to refine my original ideas and concepts at the beginning of my research. My special gratitude is also extended to the other members of CARDO, for their guidance, suggestions and encouragement in the completion of this study. My special thanks to Dr. Peter Kellett for his constructive comments and suggestions and to Dr. Colin Wymer for his advice in during the computer analysis. My thanks are extended to my colleagues in CARDO with whom I shared information, view and ideas with during the period of my study and stay in Newcastle.

Many individuals have contributed to the realisation of this study. I would especially like to express my gratitude to the following: The pilgrims of al-Madina who participated in answering the questionnaire; the students of Islamic University in al-Madina for their assistance during my field work, the Pilgrims' Housing Permits Committee, the pilgrims' delegations and Pilgrims National Guide Estate for the valuable data and co-operation throughout the field work.

It is my pleasure to also remember and acknowledge others who lent me their assistance and expertise. Among them are Mrs Karen Lowe and Mrs Christine Minton who assisted me in editing this thesis.

Finally, I am grateful to my parents, brothers and sister, whose love, continuous encouragement and emotional support throughout all my study stages were crucial to the completion of my study at University of Newcastle.

I am sincerely grateful to four lovely and patient persons, my wife, Azizah and my daughters, Amwaj and Rana, and my son Alhaytham who accompanied me in my study journey and provided me with the support I needed and shared the frustration and joy of my studies. Without them I would not have been able to complete this work.

Abdulaziz Salem al-Harbi

1 October 1998

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CHAPTER 1 Introduction

1.1 Nature and Significance of the Study

This study is concerned with the importance of the user in identifying their needs in their built environment. It seeks to examine the user's attitude to the built environment, thereby determining the basis for future accommodation planning according to user priorities and level of satisfaction.

I first became interested in user satisfaction when I was involved in the design and construction of large housing project for the Ministry of Defence in Saudi Arabia. Although the main design of the project had been set in the design stage, the comments of potential users had been considered in the construction stage. The consideration of these comments, which mainly related to the social-cultural aspects, resulted in more resident satisfaction after they had occupied the project.

User satisfaction becomes more important if the housing project aims to accommodate people from different backgrounds (such as pilgrims). Therefore, a research stage is fundamental before starting with the design stage. I felt that this issue represented a substantially unexplored research area of housing studies, particularly in pilgrims' accommodation research.

1.1.1. Pilgrims as a Subjects to Be Studied

Islamic pilgrims are those who leave their homes and travel from many parts of the world to the Holy places to perform the *Hajj* (pilgrimage). Their travel is considered to be a religious fulfilment of one of the Islamic pillars that each Muslim should to

perform at least once in his/ her life time. With the increase in the Muslim population and improvement of transportation systems, the Holy places have witnessed a gradual increase in the number of pilgrims. Pilgrimage has become one of the major events in the world. An average of two million people can be gathered in one area for a time which may extend to more than three months. Although the pilgrims give their money, time and effort for this journey, they are sometimes faced with an unsatisfactory built environment which may affect their ability to perform their religious duties. The increase by the pilgrims' number has not been reflected in an increase in the accommodation and built environment needs. As a result, pilgrims find themselves in a built environment which is not designed according to their satisfaction.

As a fundamental issue for all Muslims, the study of pilgrimage and pilgrims is one of the subjects that has interested researchers in the last 20 years. Earlier writers have dealt with eight main issues: 1) Religion ¹, 2) History, 3) Transportation², 4) Geography³, 5) Regional planning ⁴, 6) Housing Market⁵, 7) Facilities management⁶ and 8) Pilgrims Accommodation in Makkah⁷. The research was concerned mainly with the city of Makkah. al-Madina has been neglected, apart from study of its history and the general development of the city and the Prophet's Mosque. Also, the pilgrims' satisfaction with their accommodation has not been strongly considered in previous research. Specifically, the pilgrims who visit al-Madina were not given a chance to state their opinion regarding the quality and quantity of their accommodation and the services provided for them.

¹ See Deangeiis (1992) and Daham (1981)

² See Bushnak (1977), Berhe (1988), al-Abdul-Gader (1988) and al-Gadhi (1991).

³ See Ilam (1979) and al-Thagafy (1991).

⁴ See Kari (1988), Deangelis (1992) and al-Sawydani (1997).

⁵ See Pasha (1984).

⁶ See Barhamain (1997).

⁷ See Makky (1981), Hariri (1986), al-Afghani (1988), Ashi (1997).

1.1.2 The *Hajj* (Pilgrimage) to Makkah and the *Zyarah* (Visiting) to al-Madina

One of the five most revered principles (pillars) of Islam is the *Hajj*, the annual pilgrimage to Makkah and the Holy places around it. The *Hajj* is an ancient rite of Arabia established long before Islam and particularly during the time of the Prophet Abraham (PBUH). The ritual observances and activities of the *Hajj* are well defined and documented in Islam; some, which are in Qur'an and follow, in principle, the example of the pilgrimage to Makkah by the Islamic Prophet Mohammed (PBUH), which has been described in detail by his contemporaries⁸.

Allah said: "... *pilgrimage thereto is a duty men owe to Allah, those who can afford the journey...*". Sura (3) al- Imran verse (97).

Allah said: "*The Hajj (pilgrimage) is (in) the well-known (lunar year) months (i.e. the 10th month, the 11th month and the first ten days of the 12th month of the Islamic calendar, i.e. two months and ten days). So whosoever intends to perform Hajj therein by assuming Ihram, then he should not have sexual relations (with his wife), nor commit sin, nor dispute unjustly during the Hajj. And whatever good you do, (be sure) Allah knows it. And take a provision (with you) for the journey, but the best provision is At- Ta qwa (piety, righteousness, etc.). So fear Me, O men of understanding.* Sura (2) al-Baqarah verse(197).

It is vital to understand that nobody can alter the rites of the *Hajj*. The *Hajj* occurs at a specified time and includes ritual activities at certain places.⁹ For Muslims, the *Hajj* has become an obligation for those who have reached puberty, who are free and who are of sound mind. The ability to perform the *Hajj* is determined by the possession of the necessary funds for the journey, for the adequate provisions for of pilgrim's own family during his absence, and being physically fit to make the journey¹⁰.

⁸ Barhamian (1997) Facilities Planning and Management for the Large- Scale Event Industry, with Particular Reference to a Typical Mega-event, the Hajj (the pilgrimage to Makkah, Saudi Arabia. Unpublished Ph.D. thesis, University of Strathclyde. Glasgow. p. 35.

⁹ Barhamian (1997) p. 35.

¹⁰ An-Nwisser ,F. al-Harigi. (1989) The Relationship Between The Prophets' Mosque And Its Physical Environment , al-Medina, Saudi Arabia . Unpublished Ph.D. Thesis . University Of Edinburgh p.12.

Many of *Hajj* rituals must be performed in certain places at specific times in a specific order. The rituals include: First *Ihram* (dressing in the sacred garment), then *tawaf* (circling the *ka'ba* seven times), third *sa'ay* (taking the way between *safa* and *marwa*, two small hills near the *ka'ba* about 400 metres apart seven times). After that being in *Arafat* (25 kilometres east of Makkah) on the 9th of *Dhu' l-Hajah* and spending the night in *Musdelifa* and then, spending three days between the 10th and the 12th of *Dhu' l-Hajah* in *Mina* (12 kilometres east of Makkah), in order to stone three pillars which symbolise the devil¹¹.

A *Suna* (desirable act) which can be performed before or after *Hajj* or at any other time of the year is the *Umra*. The *Umra* is a visit to the Great Mosque of Makkah, in a special Manner, comprising the rituals of *Ihram*, *Tawaf* and *Sa'ay*¹². The *Zyarah* (visit) to the Prophet's Mosque at al-Madina is also a *Suna* according to all judicial schools. However, for convenience many people undertake the ritual in conjunction with the *Hajj*, particularly those from outside the region¹³.

Narrated by Abu Huraira Allah's Messenger (PBUH) saying "*One Salat (prayer) in my mosque better than one thousand Salat in any other mosque except al-Masjid- al- Haram.*" (Sahih al- Bukhari, Hadith No.282, Vol.2)

Narrated Abu Huraira The Prophet (PBUH) saying, "*Do not set out on a journey except for three mosques i.e. al-Masjid-al-Haram Makka, the mosque of Allah's Messenger (at al-Madina) and the mosque of al-Aqsa (Mosque of Jerusalem).*" (Sahih al- Bukhari, Hadith No. 281-B, Vol.2)

The *Zyarah* does not involve specific rituals, apart from praying in the Prophet's Mosque. However, certain places have become traditional for people to visit. The Mosque of *Quba* (the first Mosque that the Prophet founded in al-Madina), and the Mosque of *Qiblatin*, where the prophet was ordered by Allah in 2/624 A.D. to change from Jerusalem to the *ka'ba* the direction to which Muslims face while praying¹⁴.

¹¹ An-Nwisher ,F. al-Harigi. (1989) p.13.

¹² An-Nwisher ,F. al-Harigi. (1989) p.14.

¹³ An-Nwisher ,F. al-Harigi. (1989) p.14.

¹⁴ Mostafa, S. L (1981) al-Madina al-Munawwara Urban Development Architectural Heritag, Dar al-Nahda al-Arabiya, Beirut, P.299.

Because the *Zyarah* is optional, there is no exact length of time a visitor has to stay in al-Madina. However, pilgrims usually pray daily offering forty principle prayers in al-Haram. This takes eight days. It is reported that the prophet said that such prayers would ensure one's salvation from fire, penalty and hypocrisy ¹⁵.

1.1.3 Studying the Satisfaction of Users as an Approach to Studying Housing

Over the past decades, in order to understand relationships between people and their built environment, much research has been conducted on housing satisfaction. In the following section we will highlight the reasons for choosing the satisfaction of users as an approach to this research.

1. Islamic Pilgrims are considered travellers who come from different parts of the world for the specific purpose of staying in al-Madina. They have left their original built environment to occupy a temporary built environment. The question which is unanswered in previous studies is "do we have to offer them the same original built environment?" If so, does that reflect a confusion in the identity of the built environment of al-Madina as the second Islamic centre? In order to answer these questions there is a need to measure the pilgrims' attitude toward their temporary housing environment. Choi¹⁶ supports residential housing satisfaction as a social indicator. He upholds the theoretical argument that the respondent's previous residential environment is greatly influenced by the formation of subjective perception of and satisfaction with their current housing environment.

¹⁵ An-Nwisher, F. al-Harigi. (1989) p.16.

¹⁶ Choi (1993) Residential Housing Satisfaction as A social Indicator (Housing Satisfaction). Unpublished Ph.D. Thesis . University Of Southern California.

2. There is a lack of research on the necessary building characteristics and services that should be considered for pilgrims. One way to explore these necessities is to ask the most involved people by examining their satisfaction with existing building characteristics. For there should be a link between the satisfaction research (or the users answers) and the existing characteristics of their housing. Ukoha ¹⁷ studied the satisfaction with public housing in Abuja, Nigeria, and found a significant positive relationship between housing satisfaction and satisfaction with structure types, building features, housing conditions, neighbourhood facilities, and housing management. He argues that, within the house, privacy affected satisfaction with building features the most. The greatest influence on satisfaction with housing condition was interior construction quality. Cleanliness of the neighbourhood significantly affected neighbourhood satisfaction.
3. The purpose of the pilgrims' visit is mainly to perform a religious duty. Accordingly, there is a need to know what kind of environment upholds the main purpose of the pilgrims' journey. As a result, there is a need to examine the effect of the pilgrims on the built environment of the Prophet's City.

Kim¹⁸ recommended that a more encompassing effort is necessary to adequately address the inter relatedness of the empirical measure of residents' beliefs, values and attitude related to their living environment.

4. The pilgrims represent different class groups. Although they are obligated to be able to meet the expense of their journey, there are no parameters for the physical, economical and social environment that allows the different classes to fulfil their pilgrimage duty.

¹⁷ Ukoha (1995), Satisfaction with Public Housing: The Case of Abuja, Nigeria. Unpublished Ph.D. Thesis. Virginia Polytechnic Institute and State University.

¹⁸ Kim (1997), Modelling Resident Satisfaction: Comparison of the Francescato and Fishbein-Ajzen Tra Models (Theory of Reasoned Action, Housing, Built Environment), Unpublished Ph.D. Thesis. University of Illinois at Urbana-Champaign.

Chin¹⁹ in his research in a Korean multifamily housing environment argues that housing environment is vital to the understanding of man's relationship to the built environment because it represents the most fundamental habitat for living. He theorises that a resident's housing satisfaction, is an important factor in evaluating the performance of the physical, social and behavioural aspect of the housing environment. He states in his findings that causal model testing is clearly useful to the environment design / planning and a further and more extensive investigation of the relationships between specific design / planning characteristics and resident's affective responses toward their living environment is recommended.

5. In the case of these studies, there is a need to investigate whether income-class is reflected in the quality or the quantity of housing that each group has been offered.

Sidi²⁰ examined a way of providing more suitable housing for a low-income group in Kuala Lumpur, Malaysia. Her study indicated that both physical and socio-cultural factors influenced housing suitability. She argues that despite the important influence of ethnicity on the suitability of the attributes of the units, the size, or specifically the amount of space per person actually had the greatest influence on the suitability of the unit as a whole.

6. Design decision, construction, maintenance and management of any housing project needs to incorporate information from the users to implement any policies successfully.

¹⁹ Chin (1990), Resident Housing Satisfaction in Multifamily Housing Environment in Korea, Unpublished Ph.D. Thesis . University of Illinois at Urbana-Champaign.

²⁰ Sidi (1991), Towards Providing a More Suitable Housing for the Low-Income Group: a study of the Dwelling Units of Public Low-Cost Flats in Kuala Lumpur, Malaysia.

Zargar²¹ studied the reconstruction of a rural area of Khuzistan, Iran. He argues that the more the inhabitants are directly involved in the decision-making and the physical work of the reconstruction of their settlement, the higher the degree of satisfaction with the end product will be.

Walker²² finds that housing satisfaction must be regarded in a wider scope from the idea that it is a product of architectural determinism. Instead, it can be a dynamic process emerging from a combination of prevailing economic, social, political and cultural relationships. His research at the newly built Par-value Co-op in Liverpool surveyed the members and found that user-control of management, maintenance and decision-making processes contributed towards a high level of satisfaction with their homes and management services.

The above examples indicate that throughout the world the satisfaction approach has been used as a valid approach for understanding the man-built environment relationship. This understanding may provide the basis for a necessary continuance of this approach to satisfy future pilgrims' accommodations. According to Rapoport²³

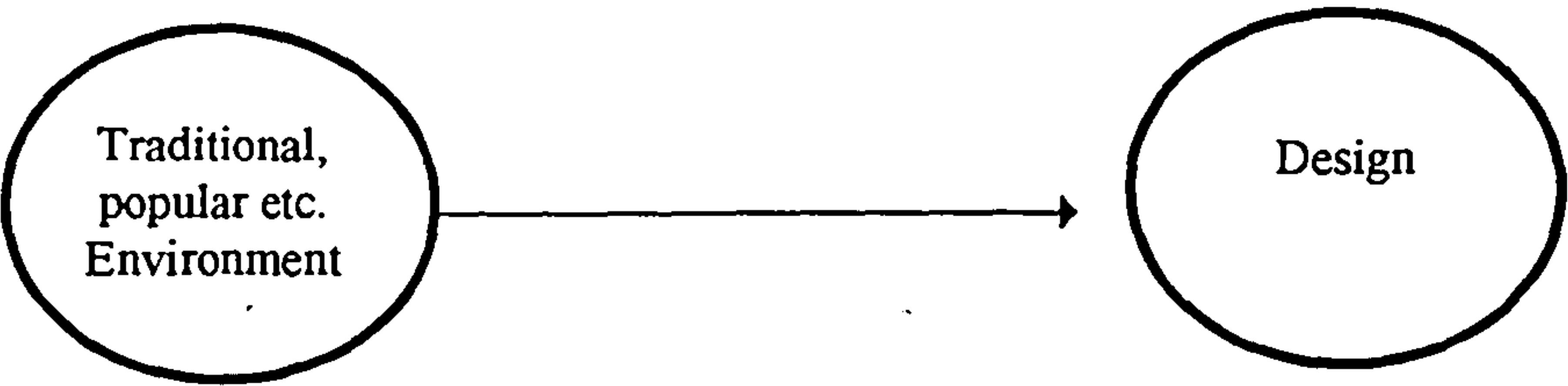
"Design is seen as being concerned with providing a setting for people. It thus a problem - solving activity which must be based on an understanding of man-environment relation (MER). Such design requires knowledge based on research of how people and environment interact, of bio-social, psychological and cultural characteristics of people which should shape the kinds of settings to be created; the effects of environments on people; the mechanisms linking people and environments.....the traditional and other environments being considered must not be 'copied' but lessons need to be derived through an analysis based on conceptual models from MER. Diagrammatically this distinction is shown in Fig.1".

²¹ Zargar (1990), Reconstruction of War-damaged Rural Areas of Khuzestan, Iran. Unpublished Ph.D. Thesis. University of York, United Kingdom.

²² Walker, R. (1991) Housing Co-operatives: Paths to Tenant Control and Housing Satisfaction (Liverpool, England). Unpublished Ph.D. Thesis. University of Reading, United Kingdom.

²³ Amos Rapoport; *HABITAT INTL*. Vol.7. No. 5/6. Pp .249-268. 1983.

Instead of



The process should be:

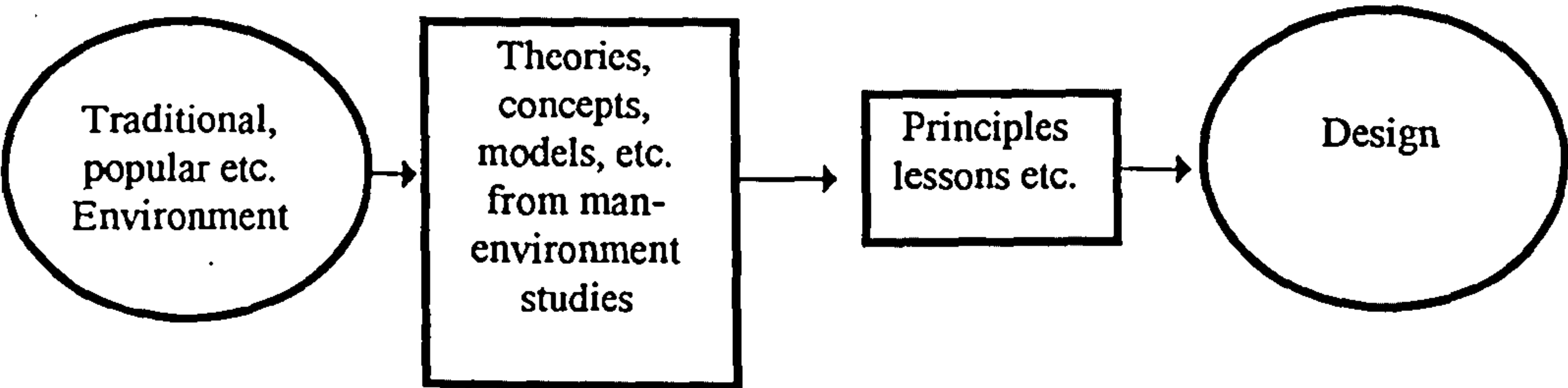
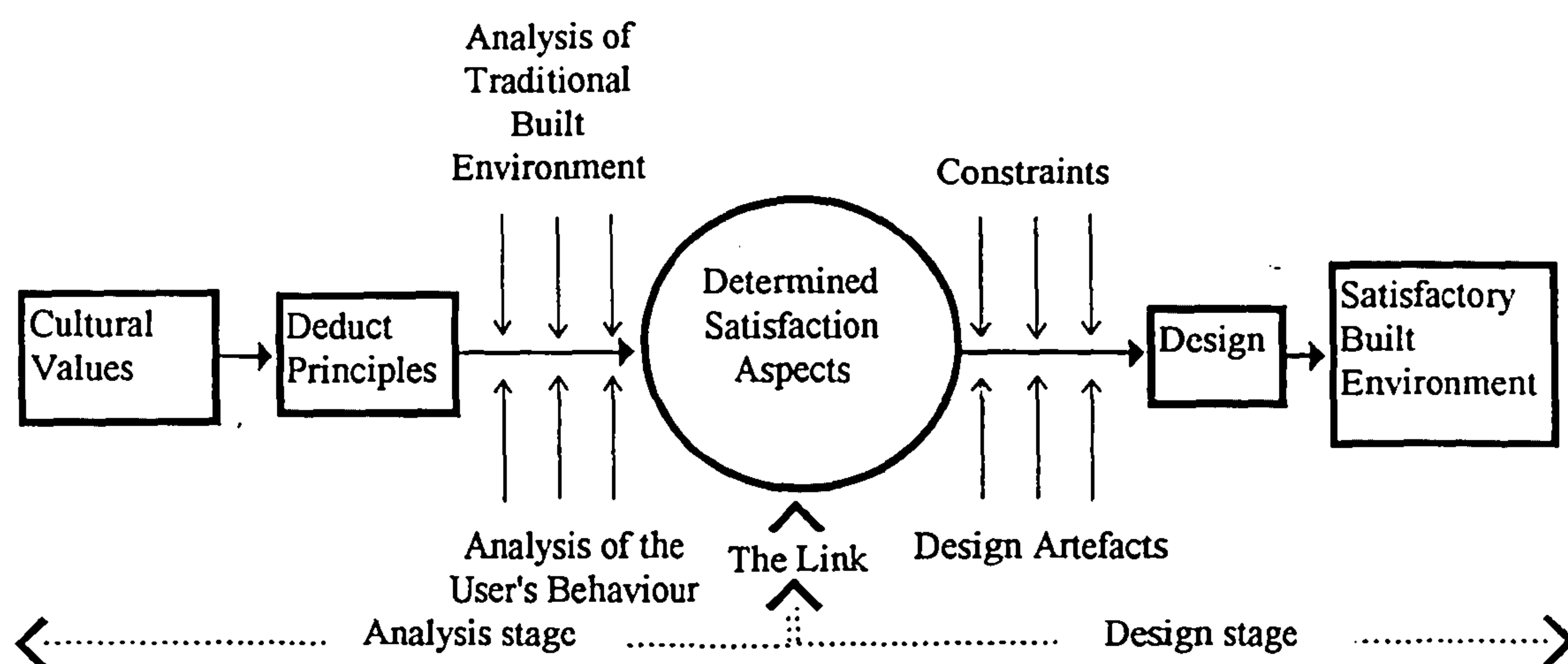


Fig1.1 The Process of Analysis and design As Illustrated by Rapoport

Source: Amos Rapoport; *HABITAT INTL.* Vol.7. No. 5/6. Pp .249-268. 1983.

The author of this dissertation believes that it is vital to have a strong link between the analysis stage and the design stage, to ensure the success of the design. This link could be achieved by determining the satisfaction aspects of the users with the environment. It can be argued that the process of analysis and design that has been illustrated by Rapoport above can be further developed by incorporating the satisfaction aspect which is the concern of this study. The process can be illustrated by Fig 1.2.

Fig 1.2: Incorporating Satisfaction Aspects in the Process of Analysis and Design



1.2 Research Aims and Objectives

The aims and objectives of this research were identified as following:

1. The specific core proposition of the research is to analyse the results of pilgrims' satisfaction with all aspect of their existing accommodation as a micro built environment (see chapter 7).
2. To study the pilgrims satisfaction with the existing macro level of built environment; i.e. neighbourhood and city (see chapter 8).
3. To examine the Islamic principles as the elements from which the traditional cities are composed and to examine the validity of those principles in the present and future design of the built environment (see chapter 4, chapter 7, chapter 8 and appendix A).
4. To test the effect of Islamic principles on the degree of satisfaction with the built environment. (see chapter 4, chapter 7, chapter 8 and appendix A).
5. To identify the main characteristics of both the pilgrims and their accommodation in order to seek a better understanding of the user space relationship (see chapter 6 and appendix B).
6. To investigate the urban development of the city of al-Madina (the second most important religious city for Muslims) from the beginning of Islam up to the present. (see chapter 2 and chapter 3).

7. To focus on the effect of the expansion of the Prophet's Mosque on the city layout and the impact of pilgrims on the social, economic and physical aspect of the built environment (see chapter 2 and chapter 3).
8. To review the traditional Islamic built environment characteristics of unity and diversity (see chapter 4 and appendix A).
9. To evaluate the differences between the traditional and contemporary Islamic built environment (see chapter 4 and appendix A).
10. To investigate the effect of the nationality type on the satisfaction of the pilgrims with accommodation, neighbourhood and city (see chapter 9).
11. To draw attention to the vital and crucial need for satisfactory pilgrims accommodation (see chapter 7, chapter 8, chapter 9 and chapter 10).
12. To put forward a set of design and policy guidelines for the future pilgrims' accommodation and development of the city (see chapter 10).

In short, the research aims to find an approach to housing the various groups of pilgrims based on their perceptions and attitudes. Also, the significant attempt of this research is to understand the characteristics of the accommodation that lead to an acceptable level of satisfaction for the pilgrims. It is hoped that this will raise the awareness of policy makers, architects, planners, and landscapers and furnish the basis for future development.

1.3 Limits and Focus

The limits and focus of this study are mainly related to seven parameters:

1. The **subject** is the Muslims' built environment and, in particular, the satisfaction with pilgrimage accommodation.
2. The **users** are the pilgrims as the target group, who are considered as a quota sample of Muslims from all nationalities and geographical areas of the world.
3. The **location** is the city of al-Madina, where the subject of this research has been neglected by previous researchers.
4. The **historical time** is limited to the development of the city from the beginning of Islam with a focus on the contemporary situation.

3. The *sources of data* are the available literature and the data collected during the field work.
6. The *budget* is limited by the researcher's own ability.
7. The *time of the research* is limited to the scholarship period.

1.4 Outline and Structure

In an effort to present the literature review, field survey, analysis, finding, etc., this study consists of four primary sections: Background, Islam and the Built Environment, Survey Analysis of the Visitors' satisfaction with the Existing Housing in al-Madina and Their Perception of Future Development, Conclusions and Recommendations for Policy Implementation.

As part of the first section, Background, an introductory chapter, i.e. **chapter 1**, on the significance and contribution of the study are defined. Also, the aim, objective, limits and focus are set to put the whole study into context. The chapter ends with the research outline and structure that organises the whole study. The background information on al-Madina is presented in two parts; the first, i.e. **chapter 2** discusses the development of al-Madina from the beginning of Islam up to present time. This chapter mainly investigates the effects of the gradual expansions of the Prophet's Mosque²⁴ on the city layout and the impact of the pilgrims on the social, economic and physical aspects of the environment. The second part of the city background information, i.e. **chapter 3**, presents the contemporary built environment of al-Madina as designated by the construction of the largest ever enlargement of al-Haram which was started²⁵ when King Fahad Bin Abdulaziz took-over the government of Saudi Arabia in 1983.

²⁴ The Haram of al-Madina is considered the second most Holy place in Islam after the Haram of Makkah.

²⁵ The actual work of this extension commenced on 1st March 1986 (17 Muharam 1406), and finished on 22 of April 1994 AD (11 of Thu al-Quadah 1414 AH).

The second section, i.e. Islam and the built environment, consist of **chapter 4**, which starts with a discussion of the definition, characteristic, unity and diversity of the Islamic built environment. It compares traditional and contemporary Islamic built environments. The validity of the Islamic principles as the tool elements which form the traditional cities components is examined as a guide for satisfactory contemporary and future Islamic built environments. Then, the chapter clarifies the four sources of the Islamic principles: the Holy *Qur'an*, the *Sunnah*, *Ijma* and *Qias*. Finally, the chapter discusses the approach that has been developed to use Islamic principles as determinants of the aspects of satisfaction and dissatisfaction with the accommodation, the neighbourhood and the city.

The third section represents the foreground of this study, i.e. the survey analysis of the pilgrims' satisfaction with the existing built environment in al-Madina and their perception of the future development, included in five chapters. The first of these, i.e. **chapter 5** starts with a review of the two main research methods, which resulted in choosing the quantitative approach, and the face to face interview questionnaire in particular as the data collection technique for the present research. Secondly the chapter discusses the sample design, population size, sample size, sampling techniques, chosen sampling method and sample location of the study. Thirdly, the questionnaire's design and structure are discussed. Then, the pilot survey is used to test the questionnaire's design. Fifthly, the framework of the main survey is presented in three main parts: the interview development, interview assistants and time schedule of the interview. Finally, the chapter discusses the selected units of analysis and summarises the two stages used to analyse the collected data; the first stage is questionnaire checking and manual tabulation, and the second stage is the computer analysis of the data. **Chapter 6** introduces the data that was collected during the field work of the study. The chapter investigates the accommodation's general characteristics on four levels: The building, the bedroom, the toilet and the kitchen. This investigation involves statistical and visual analysis of the accommodation as representing the space unit of the data. The second part of the chapter deals with the users by reviewing the personal and general data about the pilgrims. Finally the contribution of each variable to the degree of satisfaction of the respondents with their housing environment is

tested. **Chapter 7** is the survey analysis of pilgrims' satisfaction with the existing accommodation (the micro level of the built environment) in al-Madina and their perception of the future development. The main purpose of the chapter is to test the influence of Islamic principles in the pilgrims attitude to their accommodation. Also, the chapter aims to analyse the collected data on the accommodation in relation to satisfaction with its location and accessibility, its exterior characteristics, its internal characteristic, its environmental conditions, its infrastructure and services, its socio-cultural environment, its economic condition and its aesthetic value. The result of the analyses are reproduced in tables by using statistical evaluations including the frequencies, percentage, mean scores, cross-tabulation and satisfaction indices of the related variables. Finally, the pilgrims' impressions and preferences of their existing and future accommodation are investigated by comparing their existing environment with the new development in the central area. The last section of the chapter aims to summarise the main finding of the chapter. **Chapter 8** investigates the link between the level of satisfaction of the pilgrims and the real characteristics of their accommodations. Also, the chapter aims to test the effect of nationality type on the degree of satisfaction with the accommodation in general, as well as, its three main components: the bedroom, the toilet and the kitchen. **Chapter 9** is devoted to the analysis of the pilgrims' satisfaction with the macro levels of the built environment: the neighbourhood and the city. At the neighbourhood level the analysis involves the neighbourhood location and accessibility, its internal characteristics, its roads and pedestrian walkways, its public facilities and services, its socio-cultural environment and its aesthetic values. At the city level the analysis includes the Prophet's City accessibility, its internal characteristics, al- Haram, the city roads and pedestrian walkways, the public facilities and services, the socio-cultural environment, the aesthetic values and general satisfaction with the prophet city.

The fourth and last, section of this study is **chapter 10** comprised of, of the main findings of the research, conclusions and recommendations. This comes in the form of a set of design and development guidelines in a policy for the building in general, the bedroom, the toilet and the kitchen.

CHAPTER 2 The General Background of the City of Al-Madina

2.1 Introduction

This chapter will provide background information about al-Madina, concentrating on its development from the beginning of Islam up to the existing situation. The chapter will start with a discussion of the city's environment and climatic condition. The historical outline part is divided into the following six sections:

1. The Time of the Prophet and the Orthodox caliphs (622-656 AD / 1-36 AH)
2. The Umayyad Caliphate (661-750 AD / 40 -132 AH)
3. The 'Abbasid Period (750-1258 AD / 132-656 AH)
4. The Mamluk Period (1258-1517 AD / 656- 923 AH)
5. The 'Ottoman Period (1517-1925 AD / 923-1336 AH)
6. The First Saudi Era (1925-1983 AD /1344 -1402 AH)
7. The Contemporary Saudi Era (the time which started when King Fahad Bin Abdulaziz took over in 13/5/1983 AD /12/8/1402 AH up to the submission of this thesis will be discussed in chapter 3 as a contemporary position of the city).

The investigation of the city's history will be limited to the urban development of the city, the effect of the expansion of the Prophet's Mosque on the city layout and the impact of the pilgrims on the social, economic and physical aspect of the environment.

2.2 Environmental Aspects of the City

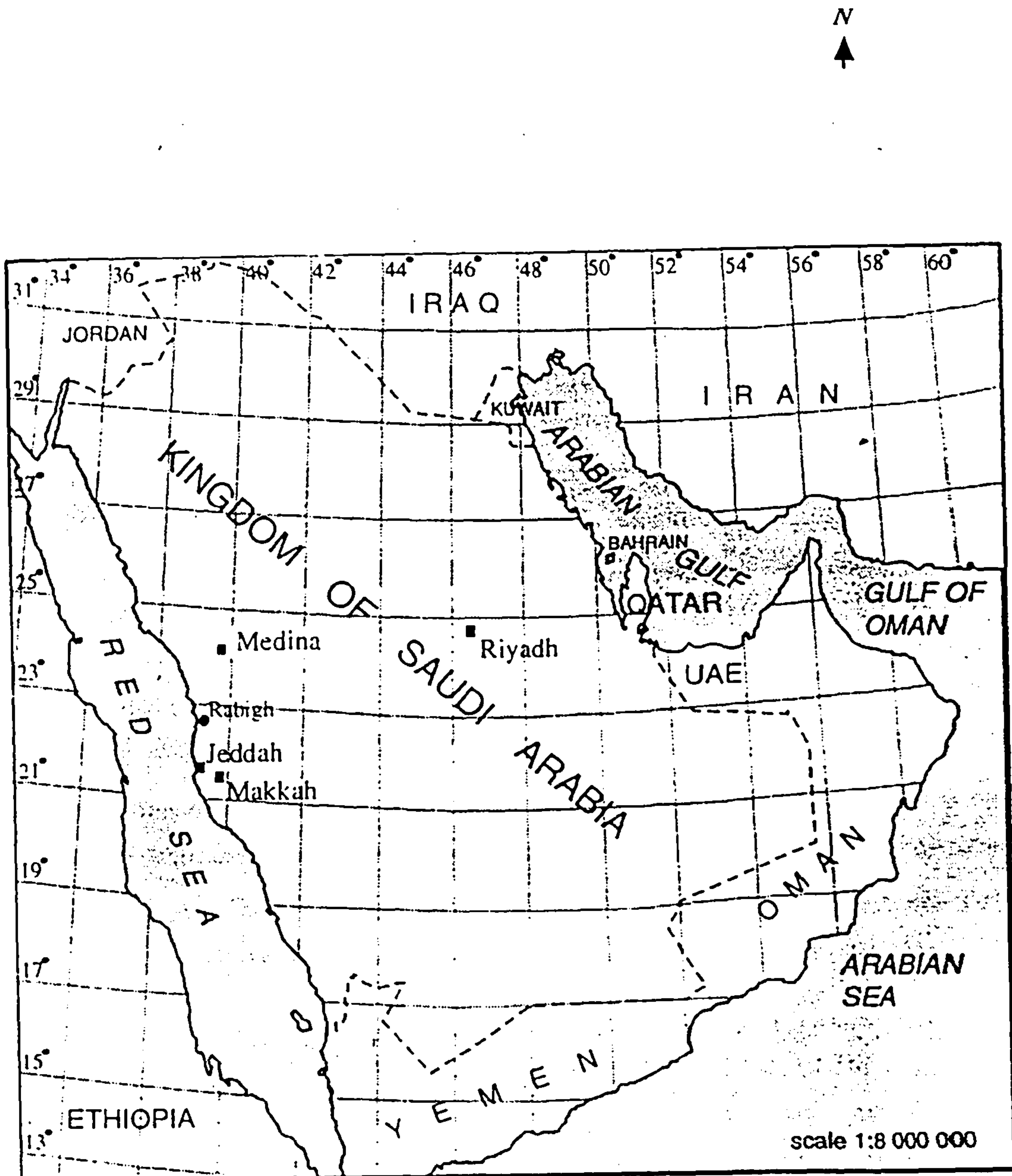
The city of al-Madina is one of the principal cities in the western region of Saudi Arabia (the *Hjaz*) (Fig 2.1). The topography of the City is characterised as an Oasis which flows sloping very gently down toward the north between altitude 24° 28' 6" north and longitude 39° 36' 16" east. It is about 360 kilometres north of the Holy city of Makkah. The city is surrounded by three mountains, *Ohud* in the north, *Sail* in the north west and *Eir* in the south-western side. This area is crossed by two main *wadis* (valleys), *al-'Akek* in the west and *al-'Akul* in the north east. Both the mountains and valleys influenced the defence and growth direction of the city (Fig 2.2). Also they maintain a fairly high level of subterranean water, particularly as a result of the construction of dams. The availability of water and the very fertile soil made al-Madina an agricultural city. Therefore, farmland used to cover much of the plain and penetrated to the heart of the city. These green areas endow al-Madina with its distinctive beauty.

The climate of al-Madina is dry and is characterised by high temperatures, ranging between 30 °C and 46 °C and occasionally even higher between May and September. The average minimum temperature is about 15 °c in the winter from December to February.

Also, the city is characterised by low humidity, with an annual average of about 22% and a minimal rainfall with occasionally intensive rain (range from 0.5 to 105 millimetre).

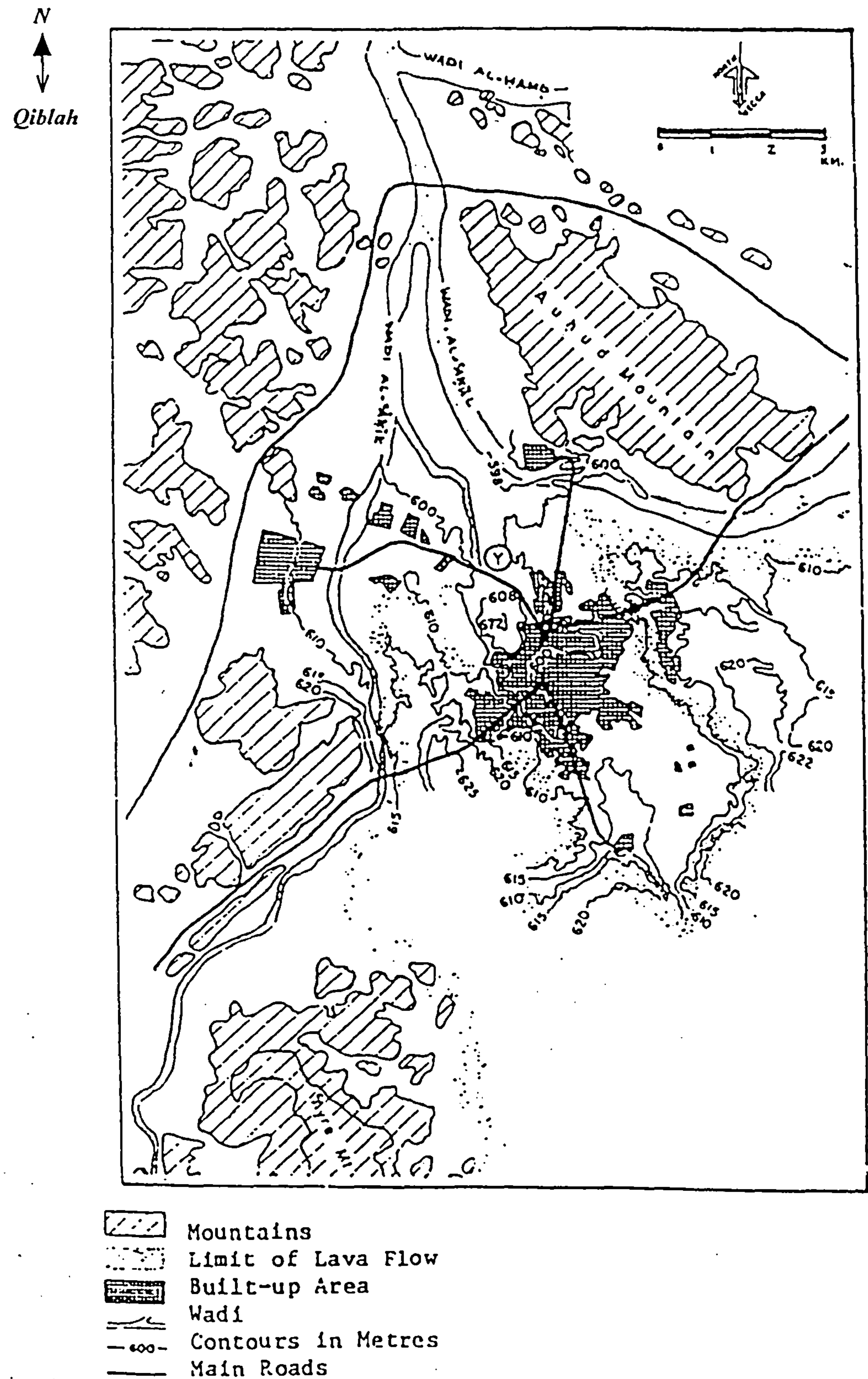
The monthly average wind speed varies between 2.5 and 4 metres / second. The prevailing wind directions are mainly from the west (between March and July) and from the east (between November and February) ¹.

¹ GACDAR (Group of Arab Consultants for Development and Reconstruction), Project No. 202, Ministry of Municipal-and Rural-Affairs, Riyadh, Report No. 13, V. III, 1980. P. 27

(Fig 2.1) The Kingdom of Saudi Arabia, Location Map

Source : Makky (1982), M.S., Madina, Saudi Arabia a geographic of the city and region. Avebury, England. P.5.

(Fig 2.2) Physical Setting of Al Madina



Source : Makky (1982), M.S., Madina, Saudi Arabia a gographic of the city and region, Avebury, England.

2.3 Historical outline

2.3.1 The Time of the Prophet and the Orthodox Caliphs (1-36 AH/ 622-656 AD)

This period started from the (*Hjra*) Immigration of the Prophet Muhammad from Makkah to al-Madina (on Friday September 24th 622 AD/ Rabi I 12th 1 AH). He arrived at *Quba* (now one of the neighbourhoods of al-Madina about three kilometres south of the city centre), and stayed there around fourteen days. Then he proceeded on to al-Madina where each clan of the *Ansar* (auxiliaries of the Prophet from the tribes of *Al-Aws and Al-Khazraj*) wanted to offer him hospitality. He told the people that his camel was ordered (would only stop where *Allah* had ordered him to stop). The camel knelt down in *marbt* (an area for dried dates) which belonged to Sahal and Suhayl. It was reported that the Prophet bought the land from them to build his Mosque ² (Fig 2.3).

The Prophet with the help of his Companions built his Mosque as the core of the new community. The Mosque was 70 cubits in length (35 metres) from north to south and 60 cubits (30 metres) in depth from east to west, where the height of its walls were the height of a man, with three entrances ³.

Attached to the east of the mosque, the Prophet built two chambers for his wives at that time, Swda and Aisha. The walls were like the Mosque, built of mud bricks on a stone foundation, and they were roofed by palm trunks covered by palm leaves ⁴. The number of chambers increased to nine ⁵.

² bn Hasham, *al-Serah al-Naboeah* V. I. , p. 493 also see al-Samhudi, *Wafa al-Wafa* 3rd . ed. Dar Ihya al-Turath al-Arabi, Beirut, 1981, V. I, pp. 323-324.

³ al-Samhudi, *Wafa al-Wafa* 3rd . ed. Dar Ihya al-Turath al-Arabi, Beirut, 1981, V. I, pp337-341.

⁴ al-Tabari, *Tar'ekh al-R'osul Wa al-M'ouluk* V. II. , p 1363).

⁵ Ibn al-Najar, *A'ghbar Madinat al-Rasual*-p. 73.

(Fig 2.3) The Route of Prophet from Quba to the Location of His Mosque



- 1. The Prophet's Mosque
- 2. Quba Area
- 3. Ohad Mountain
- 4. Eir Mountain
- 5. Al Hamadat Mountain
- 6. The Route of Prophet from Quba to the Location of His Mosque

Source : Naji Al Ansairi (1996) Omarat wa Tawsait Al masjed Al Nabui Al Sharif Aber Al Taregh, Arabic, (construction and extension of the prophet mosque through history), Nadi Al Madina Al Adabi, Book No. 95, 1st edition p. 40.

al-Bughari mentioned that Dawd Bin al-Gaes said that he saw the chambers built of palm branches where the door of each of them (opening into the Mosque) was covered by hung curtains made of black hair (for privacy purposes). Each consisted of two rooms. The outside was six to seven cubits (about 3.5 metres) and the inside room was ten cubits (about 5 metres in length) and seven to eight metres in width (about 4 metres) ⁶.

During the construction of the Prophet's Mosque and his house, which took about seven months, he stayed on the ground floor of the two storey house of Abu Ayyub al-Ansari ⁷.

Courtyard housing perhaps reflects the Prophet's House and his Mosque which were built in one architectural unit where the companions' houses were built around his mosque. The plan of the Prophet's house gives us a clear picture of the type of building layout of that time characterised by a courtyard ⁸.

The Prophet distributed the area around His Mosque among the *Muhajirei* (the Prophet's companions who immigrated from Makkah to al-Madina) who built their houses with doors opening directly into the Mosque. Yaqut (died 626/ 1229 AD) reported that

“when the Prophet migrated to al-Madina, soon after his arrival, he granted the people pieces of land for their *dur* (houses) and *rbia* (quarters). He marked land for Bani Zuhrah in the area behind the Mosque. For Abdulrahman Bin Auf the castle known by his name (north of the Mosque). He granted Abdullah and Utbah sons of Masud al-Hudli their well known marked land by their names to north of the Mosque, and al-Zubair Bin al-Awam wide “Bakea” (large piece of land); and he made for Talha Bin Ubaydullah a site for his house; and Abu Bakr al-- S'dik the site of his

⁶ al--Bukhari, (Arabic-English), (translated by M. M. Khan), Sahih al-Bukhari, 4th ed. , al-Adab al-Mufrad, Hadith No 14.

⁷ Ibn Hisham, al-Serah al-Naboeah V. II. , p104.

⁸ Mostafa, S. L, al-Madina al-Munawwara Urban Development Architectural-Heritag, Dar al-Nahda al-Arabiya, Beirut, 1981, P. 11.

house near to the Mosque. He also granted Uthmin Bin Affan, Khalid Bin Al-Walid, al-Makdad and others sites for their *dur* (houses). When the Prophet had distributing these *qataia* to his companions, he granted those sites located in vacant land (un-built areas). If the pieces of land were already developed, they were given to the Prophet by the Ansar and he granted sites as he wished. al-Harth Bin al-Nu'man was the first among the Ansar who gave land to the Prophet"⁹.

Abdulghani described the location of fifty five houses of the Prophet's companions through his research, but without much information about the areas or layout of them¹⁰ (Fig 2.4).

The houses of the companions had gates opening directly to the Mosque, in this respect Creswell indicated that the Prophet initially built the Mosque as the courtyard of his house for his own private use. However, al-Harigi (1989) argued that, since the private gate of the companions opened into the building, it could not be used, as far as domestic work was concerned, by the Prophet's household more than those neighbours who had direct access to it. Thus the building could not be private in the sense described by Creswell. He also argued that the Prophet did not utilise the courtyard of the Mosque in building the chambers for his new wives¹¹.

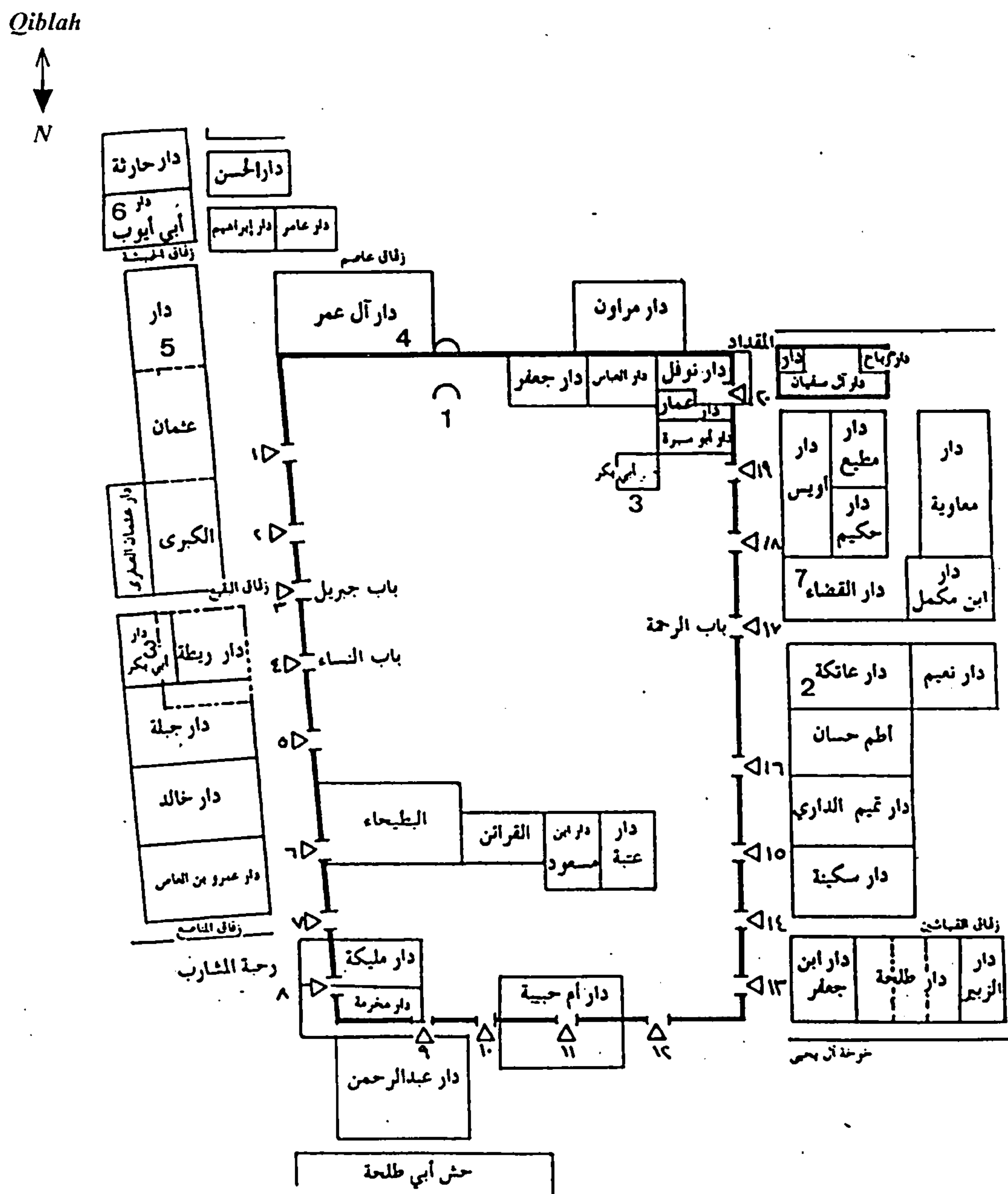
Mostafa (1981) refers to al-Bukari, that the courtyard was used as a clinic and a military camp. He reported that there is no surprise in using the Mosque for various functions since Islam covered all aspects of life (religious, political, military, health, economic and social life)¹².

⁹ al-Samhudi, Wafa al-Wafa 3rd. ed. Dar Ihya al-Turath al-Araby, beirout, 1981, V. I, p. 718.

¹⁰ Abdulghani, Be'yut al-Sahabah (Houses of Companion) 1997.

¹¹ An-Nwisher ,F. al-Harigi. (1989) The Relationship Between The Prophets Mosque And Its Physical-Environment , al-Medina, Saudi Arabia . Unpublished Ph. D. Thesis . University Of Edinburgh . p 27.

¹² Mostafa, S. L, al-Madina al-Munawwara Urban Development Architectural-Heritag, Dar al-Nahda al-Arabiya, Beirut, 1981, P. 12.

(Fig 2.4) Location of the Fifty Houses of the Prophet's Companions

1. The Praying Area
2. House of Attekah
3. House of Abu Bakr Al - Sidik
4. House of Umar

5. House of Uthman
6. House of Abu Ayuob Al Ansari
7. House of Al Kada (the Court)

Source : (Adapted from) Abdulghani (1997)., Beyut Al Sahabah, Arabic, (Houses of Companion). P.60.

al-Madina continued to preserve its tribal character with its spatial organisation. Each tribe had its group of houses (*Manazil*) clustered together in the form of quarters¹³. In the Prophet's time there were nine quarters in Al-Madina, corresponding to the number of tribal Mosques which were said to have been named after the different tribes or clans¹⁴.

The city was without a wall where the market area was outside the residential quarter, the shopping area was open spaces without any specific buildings¹⁵. In regard to the location of the *su'q*, the Prophet choose an area near the Mosque but he was prevented by Kab Bin al-Ashraf the owner of the land. He then chose another area between the *Musalla* (open area where Eid feast prayer is performed) and *Thanyat al-wada*. This area according to Ibn Zubala was given to the Prophet by Bani Sa-iedah¹⁶.

Although the city was not walled during the Prophet's time due to its natural defence topography, during the battle of the *khandak* in 627 AD (5 AH), he ordered his companions to dig a ditch around the northern side in order to defend the city against the attack of *Quraysh* tribe of Makkah.

On June 8th, 632 the Prophet died, He was buried in Aysha's *hujrah* (chamber), (After the enlargement this area came within the Mosque, therefore, the Prophet's Mosque and al-Madina became more important for Moslems to visit and pray for the Prophet). Abu Bakr al-Sadeq was elected as his caliph. His reign lasted for two years and was not enough to see any change in the city or the Mosque development since he was very busy in the War of the *Ridaha* (Subduing revolts among some tribes)¹⁷. Before he

¹³ al-Samhudi, *Wafa al-Wafa* 3rd. ed. Dar Ihya al-Turath al-Araby, beirout, 1981, V. I, pp. 190-215.

¹⁴ AL-Hathloul, Saleh, A. (1981), 'Tradition, Continuity and Change in the Physical-Environment: The Arab-Muslim City'. Unpublished Ph. D. Thesis, M. I. T. Cambridge, Mass., U. S. A. February 1981. P. 32.

¹⁵ Mostafa, S. L., *al-Madina al-Munawwara Urban Development Architectural-Heritag*, Dar al-Nahda al-Arabiya, Beirut, 1981, P. 12.

¹⁶ al-Samhudi, *Wafa al-Wafa* 3rd. ed. Dar Ihya al-Turath al-Araby, beirout, 1981, V. II, p748.

¹⁷ Ibid. *op. cit*, V. II, p. 481.

in 634, he appointed Umar Bin al-Khatab to be his successor. He enlarged the Prophet's Mosque in 638 due to increasing population. He said when he made the decision "Had I not heard the Prophet say we should increase the *Qibla* of our Mosque, I would not have enlarged it"¹⁸.

Abu Huriray narrated that the Prophet (PBUH) said "If My Mosque was extended as far as Sania, it verily would still be part of My Mosque"¹⁹.

The expansion of Umar included some of the companions' houses which surrounded the Mosque, such as the houses of Osama and Zid Bin al-Harth, Jafar Bin Abi Taleb, al-Abbas, Said Bin Abi Waqaus, Abdurahman Bin Awf, al-Sadeq, and Abdulah Bin Masuad²⁰. Sources indicated that the enlargement was from the opposite side to the Prophet's wives' houses. The Mosque increased to 140 cubits (about 70 metres) from north to south and 120 cubits (about 60 metres) from east to west²¹.

The foundations of the new extension were built of stone while sun-dried bricks were used for the construction of the walls. (Umdat al-Akhbar p.108) and (al-Samhudi Wafa al-Wafa 2, p.495). According to al-Samhudi, sand from al-Aqueq Valley was used to furnish the ground of the praying area. Moreover, it was lighted at night and a platform was established outside the Mosque for public conversation and talk²².

After the murder of Umar in 644 AD, Ottoman Bin Afan was elected as the third caliph of the Prophet. Abn al-Najar reported that when Ottoman became the caliph in 14 AH, the people asked him to enlarge the Mosque and complained that it became

¹⁸ Ibid. *op. cit.*, V. II, p. 482.

¹⁹ Jama al-Hadaith 5, p. 418.

²⁰ al-Samhudi, *Wafa al-Wafa* 3rd. ed. Dar Ihya al-Turath al-Araby, beirout, 1981, V. II, p493.

²¹ Ibid. *op. cit.*, V. II, p. 493.

²² Ibid. *op. cit.*, V. II, p. 495. Also See Umdat al-Akbar p. 108.

small on Friday, so they prayed outside the Mosque. He consulted the Prophet's companions who agreed that he should demolish the Mosque and replace it with a larger one²³.

The demolition and construction of the new Mosque which lasted for ten months, was completed on September 4th 650 AD (1 Muharm 1st 30 AH)²⁴. al-Bokhari reported that Ottoman Bin Affan enlarged the Prophet's Mosque and built its wall and columns from decorated cut stones and the roof from "saj" (teak wood), and he consulted the Prophet's companions in this enlargement²⁵.

The length of the enlarged Mosque increased to 170 cubits from north to south (85 metres). The flat roof of "saj" teak was carried by five rows of columns, with 12 columns in each made with iron clamps²⁶.

Ibn Zubala and Ibn Shaba mentioned that Ottoman had introduced the *Maksurah* (Imam Chamber) for the first time. It was built of mud with a *Kui* (a window to allowed the people to see the Imam)²⁷. It seems that Ottoman built the *Magsurah* for the safety of the Imam after the murder of Umar.

al-Bokhari and Muslem reported that when Ottoman Bin Affan intended to build the Mosque, the people did not approve, they wanted it to be kept in the same state, thereupon he said: I heard the Messenger of Allah (PBUH) say: "He who built a Mosque for Allah, Allah would build a house for him like it in paradise"²⁸.

²³ Ibid. op. cit, V. II, p. 663.

²⁴ al-Dur al-Thamnah p. 97.

²⁵ al-Samhudi. Ibid. op. cit, V. II, p. 502.

²⁶ Fatih al-Barei BeSharh al-Bukhari VI, P643.

²⁷ al-Mansuri, M. The Enlargement of The Prophet's Mosque, p44.

²⁸ Ibn Shaba, Tarekh al-Madina, V. I. , p. 6. also see al-Samhudi. Ibid. op. cit, V. II, p. 501.

In this enlargement Ottoman kept the chamber of the Prophet's wives' houses on the eastern side of the Mosque as they were, but part of Hafsa Bint Umar's house in the south was demolished and incorporated in the Mosque. Also the houses of Jaefar Bin Abu Talib and Marwan Bin al-Hakam were demolished due to this enlargement ²⁹.

After the killing of Ottoman Bin Afan in 656, Ali Bin Abu Talib became the caliph. He shifted the centre of the Islamic State from al-Madina to al-Kufa, but al-Madina still retained its value as a place of visitation containing the Prophet's Mosque. After the death of Ali Bin Abu Talib, Uma'iyad period started when Muawiya became the caliph.

2.3.2 The Prophet City During The Umayyad Caliphate (40 -132 AH / 661-750 AD

When Muawiya Bin Abi Sufyan became the caliph, he made Damascus the capital of the Islamic state. During his reign the area around the Mosque was paved for the first time and the city was supplied with water from Ayn al-Zarka spring. Also many palaces and orchards were built in Aqiq Valley ³⁰. al-Samhudi reported that Ibn Shaeba mentioned that, in the centre of the city, Muaewiya built two private houses. The street widths ranged from 5 to 10 cubits (2.5 to 5 metres) ³¹.

In respect to the Mosque's enlargement during the Umayyad rule, Abn Abd Raboh mentioned that the only enlargement carried out by the caliph al-Walid Bin Abdal-Malik (705-715 AD) involved demolishing the old Mosque and neighbouring houses, and incorporating the Prophet's wives' houses into the building ³². This enlargement which took three years, increased the length of the Mosque to 200 cubits (99.6 metres)

²⁹ Fatih al-Barei Be Sharh al-Bukhari V. I. P648. , and Sahiah Muslem Be Sarh al-Nawawe 5 , P14.

³⁰ al-Dur al-Thamenah pp. 91-98 and al-Samhudi. Ibid. op. cit, V. II, p. 508.

³¹ al-Ansari, Abdulkudus, Athar al--Madina, 4th. ed. , al- Maktaba al-Almaya, al-Madina, !985, pp. 215-225 and pp. 250-260.

from north to south, and 167.5 cubits (83.4 metres) from east to west. The mud walls of the chamber of Aisha in which the Prophet and his two first caliphs were buried were replaced by stone brick³³. *Riwaqs* (porticoes) were introduced for the first time on the north, east and west sides of the courtyard. Also four minarets were built at the Mosque corners³⁴. Kathir Bin Hafs reported that one of those four Minarets overlooked the house of Caliph Marwan Bin al-Hakam (a house used by Marwan the umayyads when they visited al-Madina) Suliman Bin Abdulmalik saw the *Mu'athain* (who made the call for praying) looking into the house, therefore, he ordered the Minaret to be demolished³⁵. This indicated the emphasis of privacy as an Islamic Principle in the built environment.

2.3.3 Prophet City During Abbasid Period (132-656 AH /750-1258 AD)

At this period Baghdad became the capital of the Islamic State. al-Madina faced several attacks from Bani Hilals, therefore, a wall was built around the city for the first time in 263 AH /816 AD. It was at first of mud brick but later on (in 983 AD) was replaced by stone bricks. Moreover, Nur al-Din Bin Zanki built a second wall in 1145 AD to enclose the new development that took place outside the first wall³⁶.

Ibn Jubayr, during his visit to al-Madina, reported that the city had double walls with four gates, each one facing the gate in the opposite wall. The green palm trees surrounded the city from the east and south side. The main road which led to the city was the *Quba* road while the focal point of the city was the Mosque with its minaret which can be seen from Dhu al-Hulayfa, 10 Kilometres to the south of the city)³⁷.

³² Ibn Shaba, *Tarekh al-Madina*, V. I. , p. 235. also see al-Samhudi. Ibid. *op. cit*, V. II, pp. 725-732.

³³ Ibn Abd Raboh, *al-Uked al-Farid* 4, PP. 421-422.

³⁴ al-Samhudi. Ibid. *op. cit*, V. II, pp. 544-569.

³⁵ al-Samhudi. Ibid. *op. cit*, V. II, pp516-517.

³⁶ Ibn Abd Raboh, *al-Uked al-Farid* 6, p262.

³⁷ Mostafa, S. L, *op. Cit.* , pp. 13-15.

The Caliph Abu Jaefar al-Mansur did not enlarge the Mosque when he visited al-Madina in 756. He made a shading curtain over the courtyard in order to prevent the sun rays from harming *al-Muslen* (the worshippers) ³⁸.

In terms of the Prophet's Mosque, it was reported that the only enlargement happened to be during the caliphate of al-Mahdi when he performed the pilgrimage. In 777 he visited al-Madina and saw the condition of the Prophet's Mosque. He ordered the governor of the city to enlarge it. This enlargement incorporated some of the houses attached to the Mosque such as Dar Mlekah, Sharhabel Bin Hasnah, Abdullah Bin Masuad and al-Mosoued Bin Mkhzmah. All of these houses were on the north side of the Prophet Mosque, therefore, its length increased by 253 cubits (126.5 metres) ³⁹.

The support of al-Madina and the Prophet's Mosque stopped with the fall of Baghdad to the Tatars in 1258. Afterwards, the restoration work resumed and was continued by the Mamluk Sultan of Egypt.

2.3.4 The Prophet's City In Mamluk Period (1258-1517 AD / 656- 923 AH)

In 678/ 1279 in the reign of the Sultan al-Mansur Sayh al-Din Qala'un, the roof of the chamber in which the Prophet and the two first orthodox caliphs were buried was replaced by a dome. It was the first time this architectural element appeared in al-Madina. The purpose of this was to protect the chamber from the rain ⁴⁰. However, the most important restoration work was carried out during the reign of Sultan Gayt Bay I in (879/ 1474- 881/1475). al-Samhudi reported that great developments were made in this work by using new methods of construction as well as new materials ⁴¹.

³⁸ Burckhardt, J. L. (1829), *Travel in Arabia*, London: Henry P. 202.

³⁹ Hamedah, M, *Umarat al-Masjed al-Naboue Wa Tosaiteh abr al-Tarekh*, p. 20.

⁴⁰ al-Samhudi. *Ibid. op. cit*, V. II, pp. 537.

⁴¹ *Ibid. op. cit*, V. II, p. 608.

In November 1481, almost the entire Mosque burned down after it was struck by lightning. According to al-Samhudi, what was left was the internal dome over the chamber. Therefore, the Sultan gave the order for cleaning the building and reconstructing it ⁴². In this reconstruction the area of the Mosque was increased to 120 m² more than its area before the fire ⁴³.

2.3.5 The Prophet's City During the Ottoman Period (1517-1925 AD / 923-1336 AH)

Sultan Sulayman al-Qanuni al-Ganowny (926- 974/ 1520-1566) was the first Ottoman Sultan who made some improvement to al-Madina and the Prophet's Mosque. Kuder al-Romy (died 959/ 1552) described this development, which included building a wall around the city, which took seven years to complete (939-946/ 1532-1539). Also the northern minaret was demolished and replaced by a new minaret. Moreover, some paving was laid in part of the Mosque ⁴⁴.

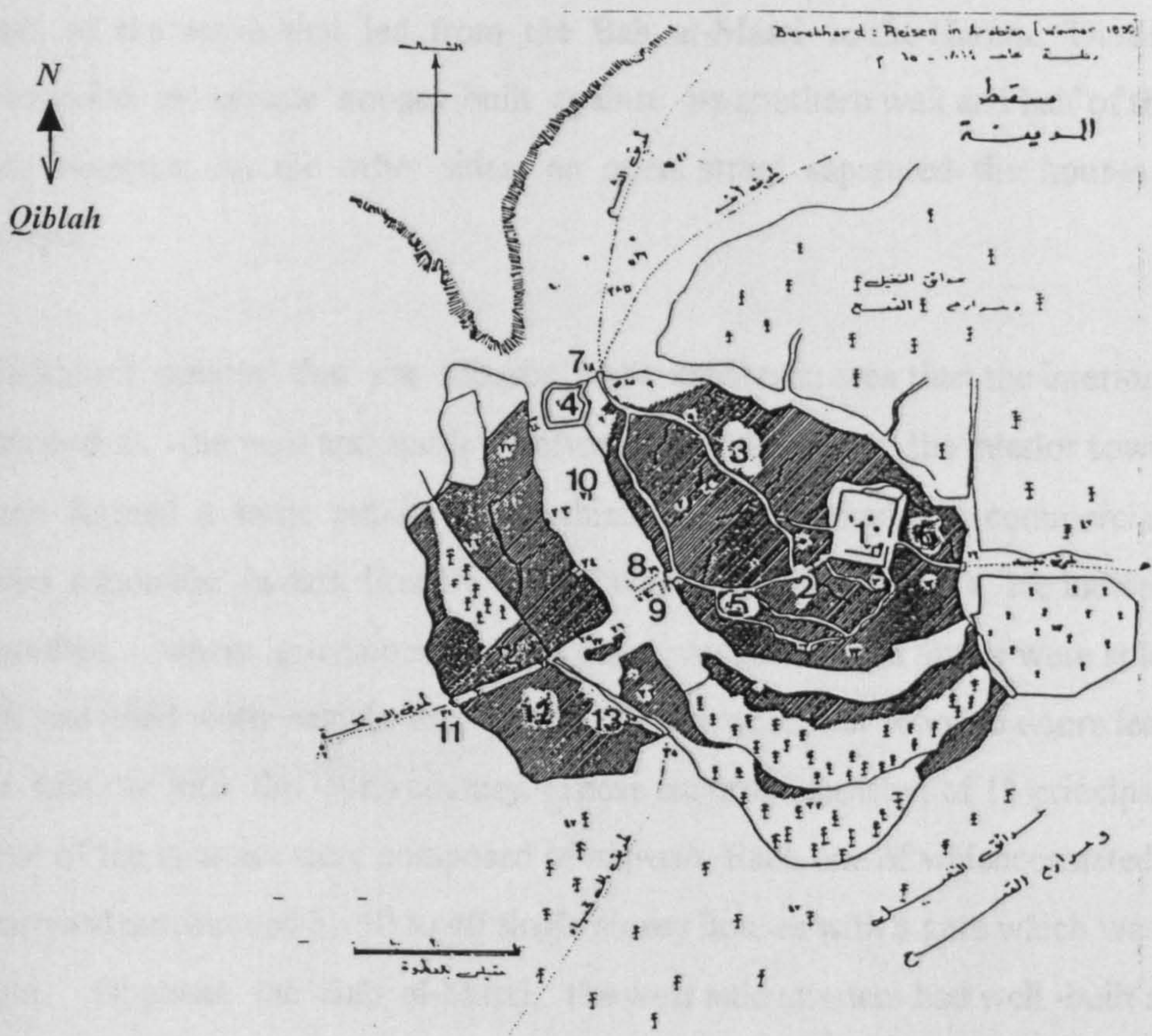
In 1230/ 1815 Burckhardt who visited al-Madina at that time, drew the first available map of the city (Fig 2.5). He described the city as divided into the interior town and the suburbs. The wall of the interior town, which was built by the Sultan Sulayman al-Qanuni, had 3 main gates; the Bab al-Shami on the north side, Bab al-Masri on the south side, and Bab al-Djum on the east side. The interior part of the town, according to him, consisted of 28 small quarters called *harat* or *azika*. The houses were generally two storeys high with flat roofs, and some of these private houses had small gardens with wells. As the houses were not high, the dome and the minarets were visible at a great distance from the city, and the visitors coming to the town, as soon as they saw the dome, repeated certain prayers.

⁴² Ibid. op. cit, V. II, p. 605-606.

⁴³ Ibid. op. cit, V. II, p. 636.

⁴⁴ al-Ansari. op. cit P. 132.

(Fig 2.5) Plan of Al Madina, 1815 AD / 1230 AH



- | | |
|--|---|
| 1. The Greet Mosque Called Al Haram. | 8. Gate Called Bab El Masry. |
| 2. Principal Market-Street. | 9. Shops and Huts. |
| 3. Public School, Called Medrese El Hmdye. | 10. The Open Space Called El Mnakh. |
| 4. The Castle. | 11. Gate Called Bab Ambarye. |
| 5. A public Bath. | 12. Al Saha |
| 6. Quarter of El Agowat. | 13. A Large Court-Yard Where the Caravan from Mekka Halt. |
| 7. Gate Called Bab El Shamy. | |

Source : Burckhardt, J.L., Travel in Arabia, London, 1968, pp. 319-320. Also, In Mostafa, S. L, Al Madina Al Munawwara Urban Development Architectural Heritag, Dar Al Nahda Al Arabiya, Beirut, 1981, P. 19.

Streets were narrow, according to Burckhardt, often only two or three paces (1.5 or 2.25 metres) wide, and a few of the main streets were paved with large blocks of stone. Also, Burckhardt indicated that shops were concentrated along the broadest street of the town that led from the Bab al-Masri to the Haram. The Haram was surrounded by private houses built against its southern wall and half of the western wall, whereas, on the other sides, an open street separated the houses from the Mosque.

Burckhardt noticed that the suburbs were greater in area than the interior town and extended to the west and south. Between the suburbs and the interior town, an open space formed a large public place which was concerned with commercial activities called *Manakha* (which literally mean "where caravans alight"). He indicated that in *Manakha*, where provisions such as dates, vegetables and butter were sold, the area was crowded with camels and people. There were four wooden doors leading from the suburbs into the open country. These suburbs consisted of 11 principal quarters. Most of the quarters were composed of *ahwash*. Each one of which consisted of a large courtyard surrounded by 30 to 40 single storey houses with a gate which was locked at night. Opposite the Bab al-Masri, the west side quarters had well-built streets and houses. Between the interior town and the suburbs there was a castle with several solid towers at the north side. The castle could accommodate six to eight hundred man. There were date groves and wheat fields with some residences for farmers on the east and south sides. According to Burckhardt there were very few public buildings and services in the town. There were about fifteen mosques, two public schools and one public bath. The population of al-Madina according to him was between 16,000 to 20,000. Of this number about 10,000 to 12,000 lived in the interior town, and the rest in the suburbs⁴⁵.

The Mosque increased to 126.25 metres in length from north to south, while the southern wall was 86.25 metres and the northern one was 66 metres⁴⁶.

⁴⁵ Burckhardt, J. L, *op. cit.* , p. 323-50.

⁴⁶ al-Ansari. *op. cit* P. 145.

Burton who visited the town during this enlargement (in 1269/1853) drew a map which is more or less similar to the map of Burckhardt. Burton reported that there were four *wikalas* (caravanserais) used as stores. Also he indicated that there were two specialised *suqs* which were *Al- khuzarya suk* (greengrocers market) and *al hababa suq* (the grain bazaar) located in the *Manakha* area. The population at his visit was 16,000. Of them 9,000 were living in the interior town while the rest occupied the suburbs. On the other hand the number of houses, according to Burton, was 1,500 and 1,000 respectively. He described these houses as characterised by the *rwishin* balconies ⁴⁷ (Fig 2.6).

Ibn Musa reported in 1303/1886 that there were 2 *Hammams* (public baths), 2 hospitals, 31 schools and 8 libraries. Moreover, in this period there were eleven specialised *suqs* in *Manakha* for dates, oil, meat, spices, textiles, livestock, grass, coal, and fire-wood. The houses were single and two - storeys⁴⁸.

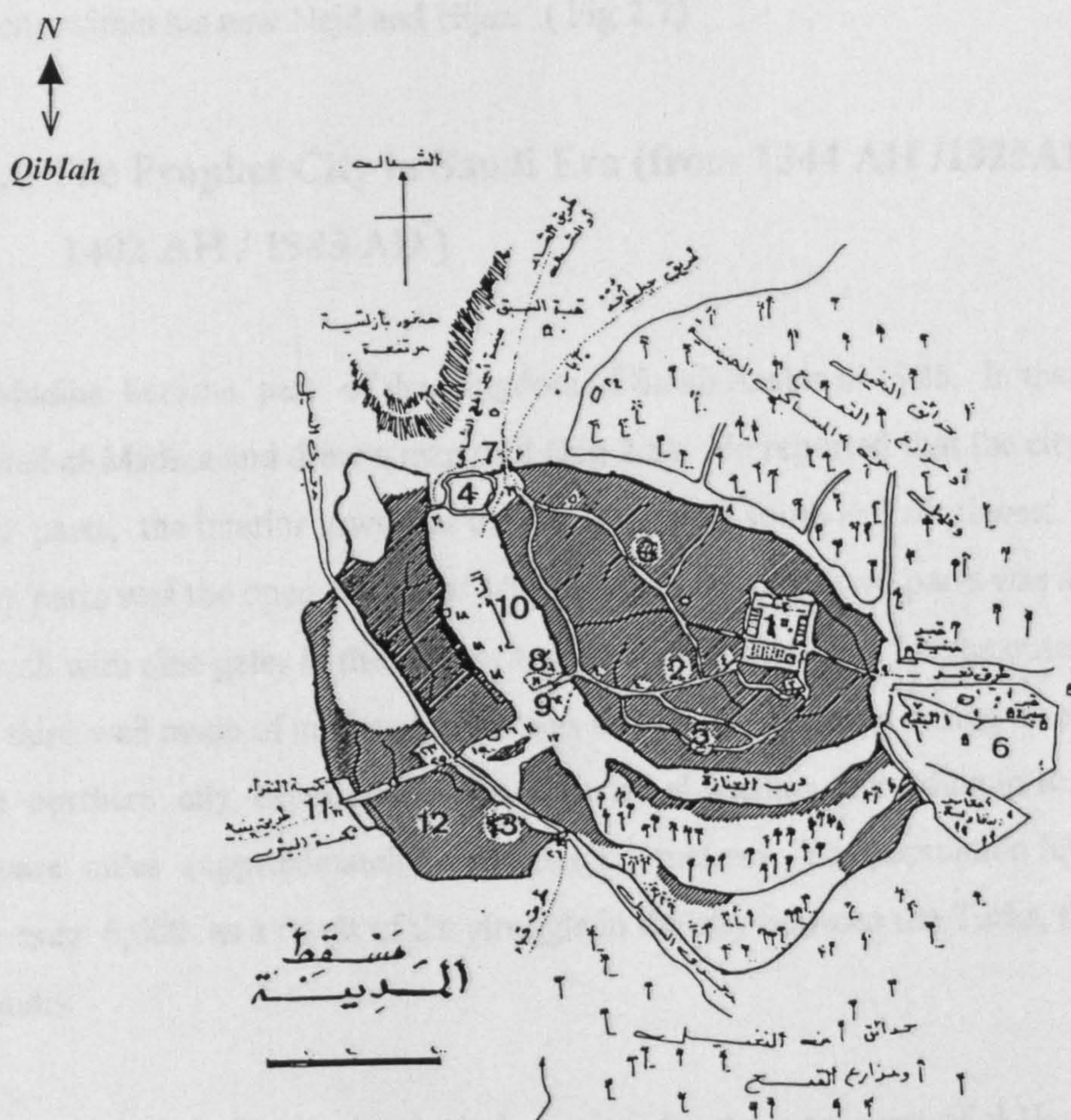
Ibriahim Rifait, who visited the town in 1318/1901 and in 1325/1908, indicated that the buildings of al-Madina were 4,000. They were mostly characterised as two or three storey *rwashin* buildings made of stone. Shops occupied the ground floors while the upper floor were kept for residences. He reported that there were 932 shops and 4 *Wikalas* in the city. Also, the city contained 17 Mosques, 19 public schools, 18 public libraries, a hospital and 2 *Hammams*. The streets were narrow (2 to 4 metres wide)⁴⁹. The *Hijaz* Railway, which was constructed during the Turkish Caliphate of Abdal-Hamid, to link the city with the Ottoman countries for economic and strategic reasons, was inaugurated in 1908. It had a great impact on the development of al-Madina as the number of Pilgrims increased and trade flourished. The railway was destroyed when Turkish rule ended during the First World War ⁵⁰.

⁴⁷ Burton, Richard F. refereed by Mostafa, S. L, op. Cit., p93.

⁴⁸ Burton, Richard F. Personal-Narrative of Pilgrimage to al-Madinah and Mecca. Constable and Company Ltd. , London, U. K. 1893. p. 393.

⁴⁹ Ibn Musa, Ali, Wasf al-Madina al-Munawara, In al-Jasir, Hamad, Rasael Fi Tarvkh al-Madina, Dar al-Yamama, Riyadh, 1972, pp. 1-81.

⁵⁰ GACDAR (Group of Arab Consultants for Development and Reconstruction), Project No. 202, Ministry of Municipal-and Rural-Affairs, Riyadh, Report No. 13, V. III, 1980. P. 26.

(Fig 2.6) Plan of Al Madina, 1853AD / 1269 AH

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| 1. The Greet Mosque Called Al Haram. | 8. Gate Called Bab El Masry. |
| 2. Principal Market-Street. | 9. Shops and Huts. |
| 3. Steet Called Al Balah | 10. The Open Space Called El Mnakh. |
| 4. The Castle. | 11. Gate Called Bab Ambarye. |
| 5. Al Wakalh | 12. Al Saha |
| 6. The Cemetery of Al Baka. | 13. A Large Court-Yard Where the Caravan from Mekka Halt. |
| 7. Gate Called Bab El Shamy. | |

Source : Burton, R. F.(1964), Personal Narrative of a Pilgrimage to Al- Medina and Meccah, New York, V.I, Pp. 392-393. Also, In Mostafa, S. L, Al Madina Al Munawwara Urban Development Architectural Heritag, Dar Al Nahda Al Arabiya, Beirut, 1981, P. 21.

al-Madina came under the control of Sharifs of Makkah on 19 January 1919 when the Turks left the city, but on December 5th, 1925, King Abdulaziz Bin Saud incorporated the city within his new Najd and Hijaz. (Fig 2.7)

2.3.6 The Prophet City in Saudi Era (from 1344 AH /1925AD up to 1402 AH / 1983 AD)

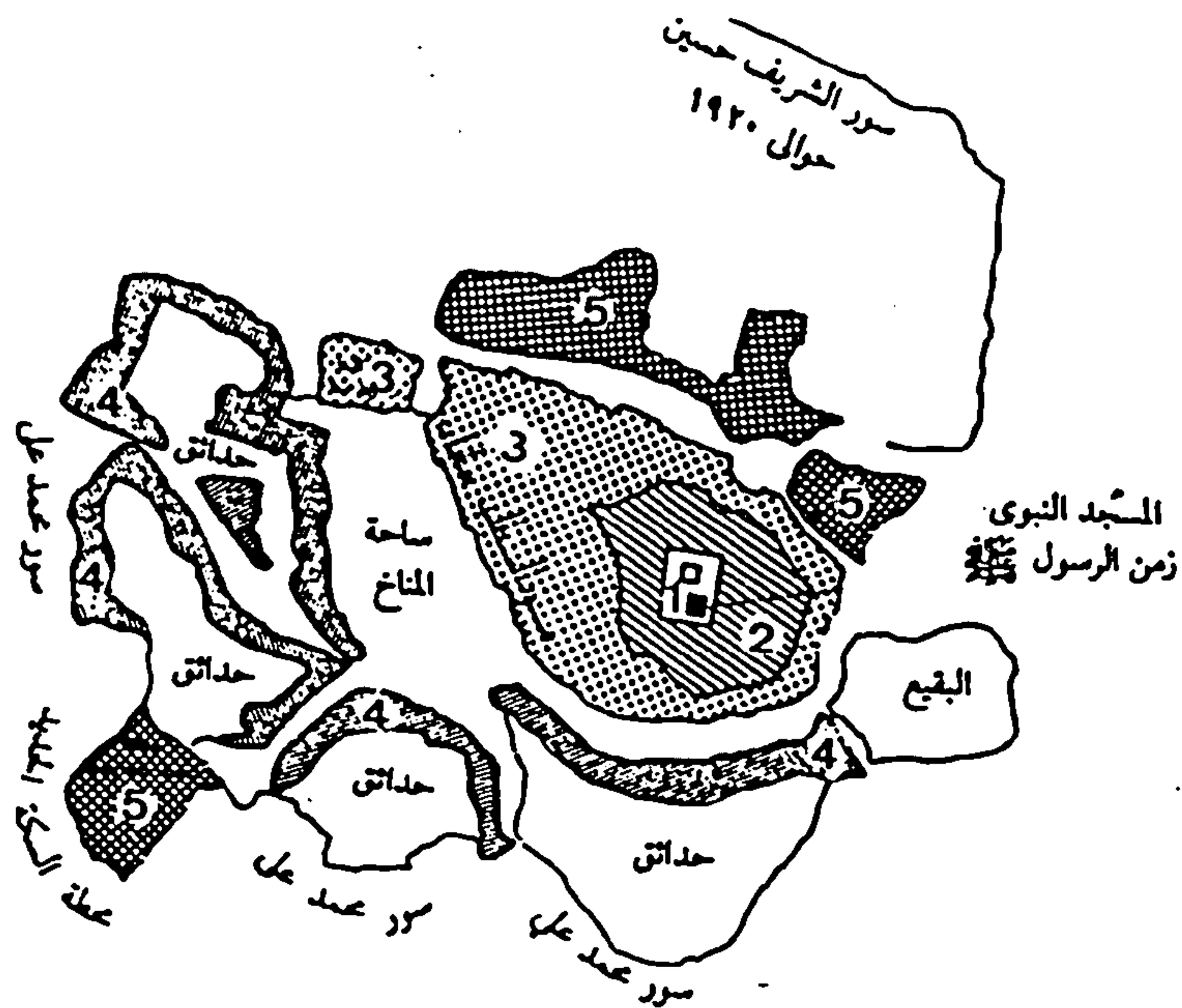
al-Madina became part of the Kingdom of Saudi Arabia in 1925. In that year, Rutter visited al-Madina and drew a map of it (Fig 2.8). He reported that the city consisted of two parts, the interior town and the suburbs in the south and southwest. Between the two parts was the open area of *al Manakha*. Each of the two parts was surrounded by a wall with nine gates in the interior town wall and five gates for the outer suburb wall. A third wall made of mud and stone was built by Sarif Husyn during his rule to protect the northern city expansion. The area of al-Madina, according to Rutter, was two square miles (approximately five square kilometres). The population fell from 70,000 to only 6,000 as a result of the struggle in the city between the Turks, the Sharifs and Saudis.

The streets of the city, particularly in *al-Aghwat* quarter west of al-Haram, were very narrow so that two men could not pass one another without turning sideways. These streets were roofed with small holes for light and air circulation. The houses were built so close to protect the residents from the hot and dry summer wind. Small shops occupied the ground floors of the houses located in the principal streets such as the street from the Bab al-Masri to Bab al-Salam ⁵¹.

Phailby, who visited the city three times in 1931, 1935, and 1938, indicated that the city consisted of three components, the city (the interior town) in the north, the camp (the *Manakha*) in the middle, and the annexe (the suburbs) in the south and west. All the three parts were enclosed by an outer wall with a length of 1,676 metres from east

⁵¹ Rifat, Ibrahim, *Mirat al-Haramayn*, Dar al-Maarif, Beirut, V. I. 400-480

(Fig 2.7) The Urban Development of Al Madina through History
(662 AD / 1 AH - 1926 AD / 1344 AH)



1. The Prophet's Mosque

2. Abasi Period: 263 - 588 AH/ 877 - 1162 AD.

3. Abasi - Mamluky - Uthman Period : 588 - 1396 AH/ 1162 - 1908 AD.

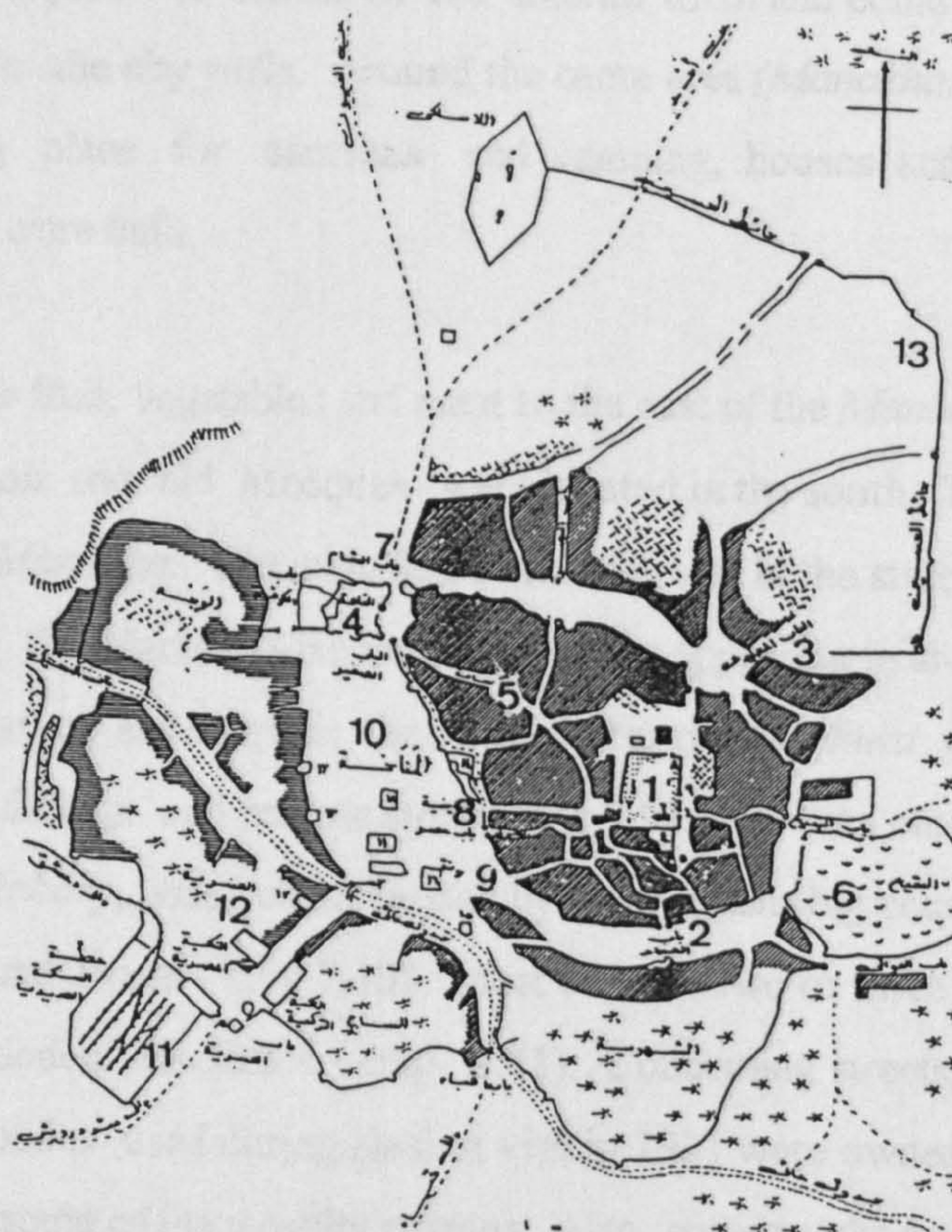
4. Uthman Period : 948 - 1326 AH/ 1542 - 1908 AD.

5. Uthman Period - Beginning of Saudi Era : 1326 - 1344 AH/ 1908 - 1296 AD.

Source : Mostafa, S. L., Al Madina Al Munawwara Urban Development Architectural Heritag, Dar Al Nahda Al Arabiya, Beirut, 1981, P.34.

(Fig 2.8) Plan Of Al Madina, 1925 AD / 1344 AH

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1. The Greet Mosque Called Al Haram.
2. Hamam (Public Bath)
3. Gate Called Bab El Majidi
4. The Castle.
5. Al Saha
6. The Cemetery of Al Baka.
7. Gate Called Bab El Shamy.

8. Gate Called Bab El Masry.
9. Shops and Huts.
10. The Open Space Called El Mnakh.
11. Railway Station
12. Al Ambarye Quarter
13. El Husayn's Wall

Source : Rutter, Eldon, The Holy Cities of Arabia, London, 1928 V. II Pp. 208 -209. Also, In Mostafa, S. L, Al Madina Al Munawwara Urban Development Architectural Heritag, Dar Al Nahda Al Arabiya, Beirut, 1981, P. 29.

to west and about 1,300 from north to south. In his visit in 1931 Philby estimated the population of al-Madina to be 15,000.

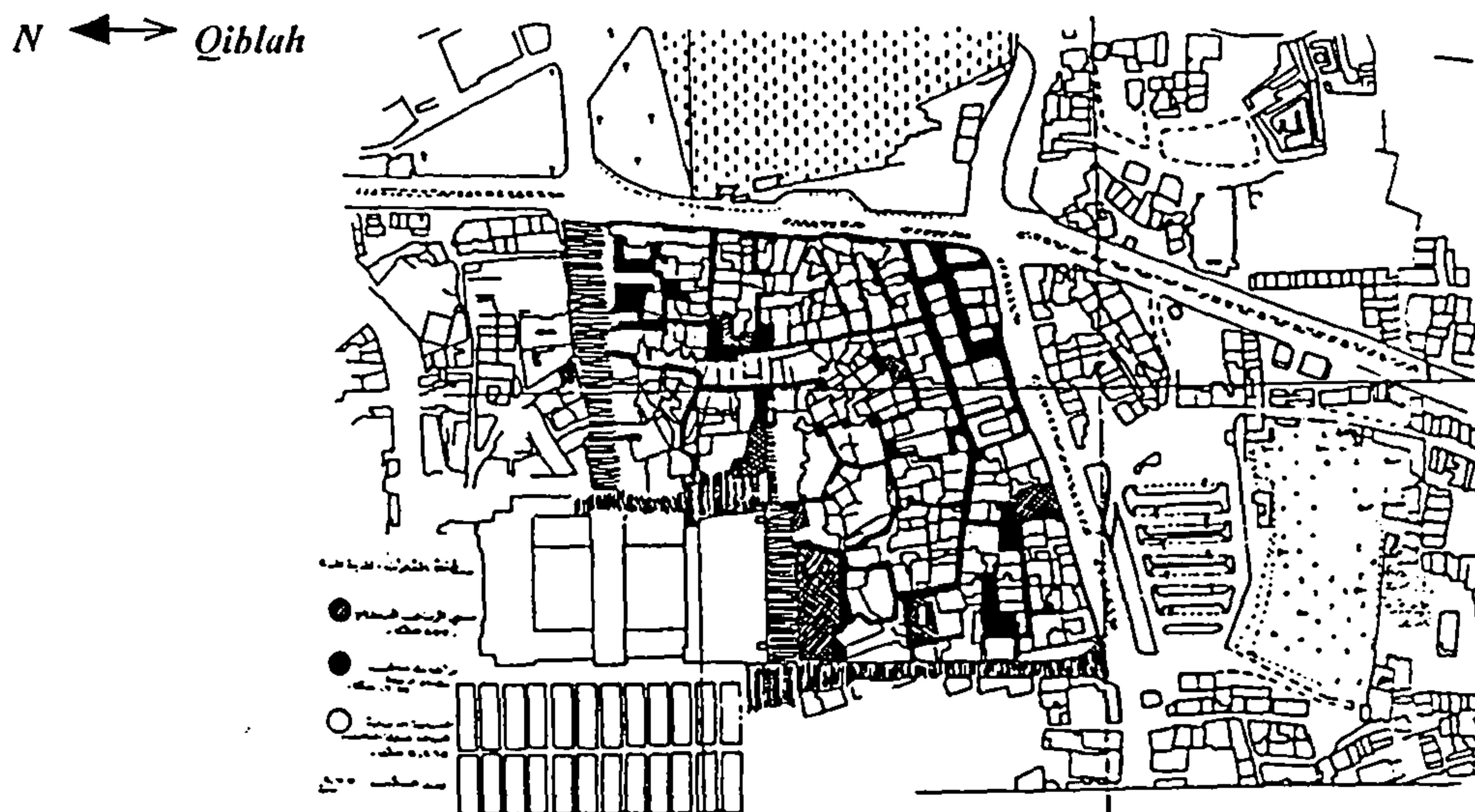
The Prophet's Mosque occupied the centre of the interior town and could be seen from several points outside the city walls. Around the camp area (*Manakha*), which was used as a stopping place for caravans and camping, houses and hostel accommodation for visitors were built.

There were some *suqs* for fruit, vegetables and meat to the east of the *Manakha* and town hall, the police station and old Mosques were located in the south. The fort occupied the area north of *Manakha*. The main *Suq* of the city was in the street which led from *Bab al-Masri* to the Haram. Also new shops were appearing in *al-- Aynia* street. To the south- west of al-Haram is the old quarter of *al-Aghwat*, which is characterised by its old buildings and narrow streets (Fig 2.9). The area outside the internal wall, such as *al-Anbary*, was characterised by the *Ahwash* (big courtyards) with houses clustered around them (Fig 2.10). Most of these two or three storeys houses were built with wooden *Rawshans* (Fig 2.11). Concerning streets, Philby mentioned that the automobiles used during his first visit in 1931 were owned by the governor of al-Madina and some of the wealthy citizens. Also, some trucks were used to transport pilgrims between Makkah and al-Madina ⁵².

The first enlargement of the Prophet's Mosque during the Saudi Era, was in 1951 AD / 1370 AH when King Abdulaziz ordered the extension of the Mosque and improvement of the streets around it. The expansion was to the three sides north, west and east. The area of the Mosque increase by 12,271 m², therefore, the total area became 16,327 m². The enlargement which was completed during King Saud's reign resulted in the demolition of a large area of the old parts around the Haram. The compensation that was given to the people due to this enlargement and the opening of new streets led

⁵² H. St J. Philby, (1957). *The land of Midina*. London, J. Pitts.

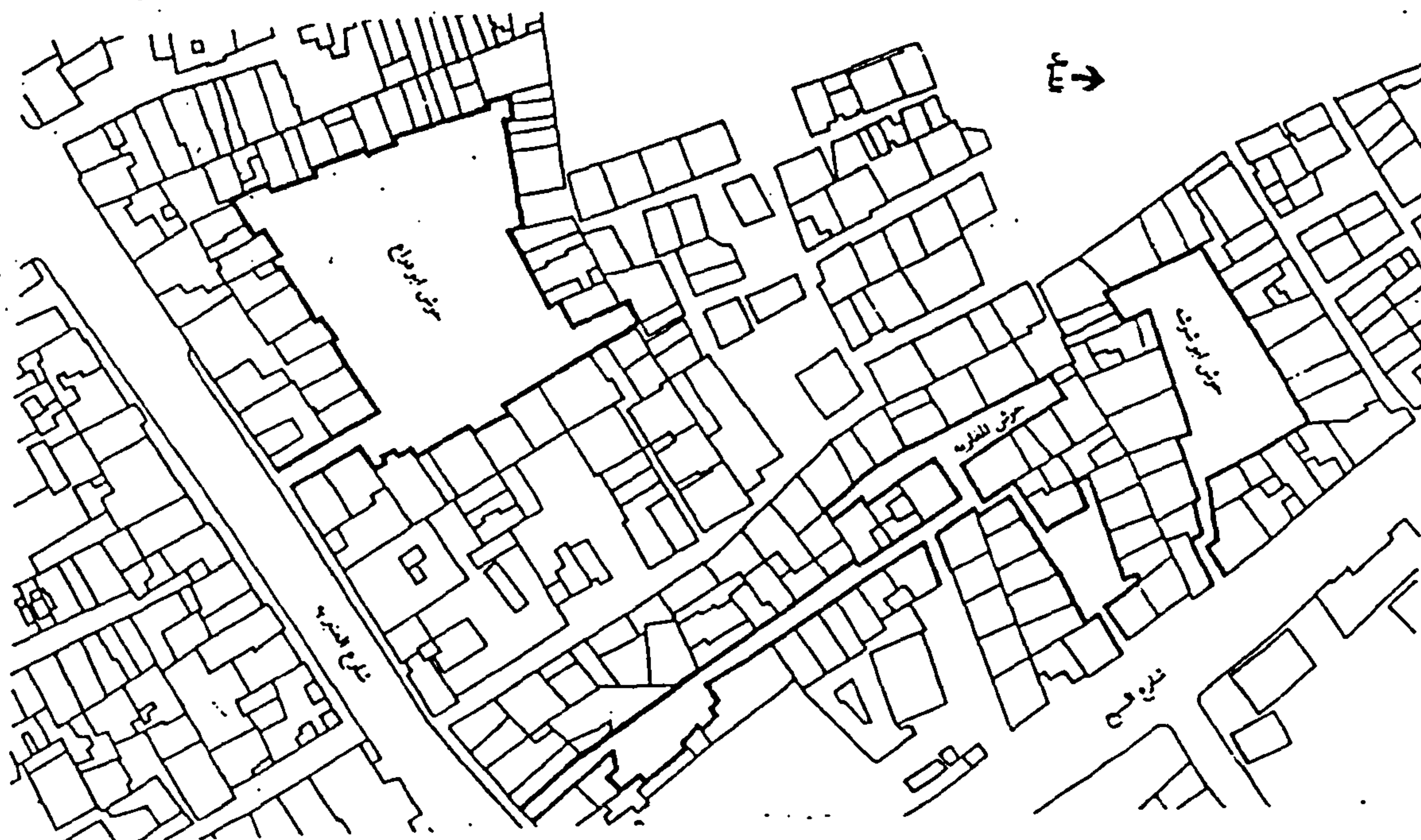
(Fig 2.9) Al Madina, the streets in Al Aghwat's quarter, the oldest quarter in the city, (demolished in 1985 AD / 1405 AH)



Source : Mostafa, S. L, Al Madina Al Munawwara Urban Development Architectural Heritag, Dar Al Nahda Al Arabiya, Beirut, 1981, P.34. Adabted from Group of Arab Consultants for Development and Reconstruction, Project No. 202, Report No. 13, P.41.

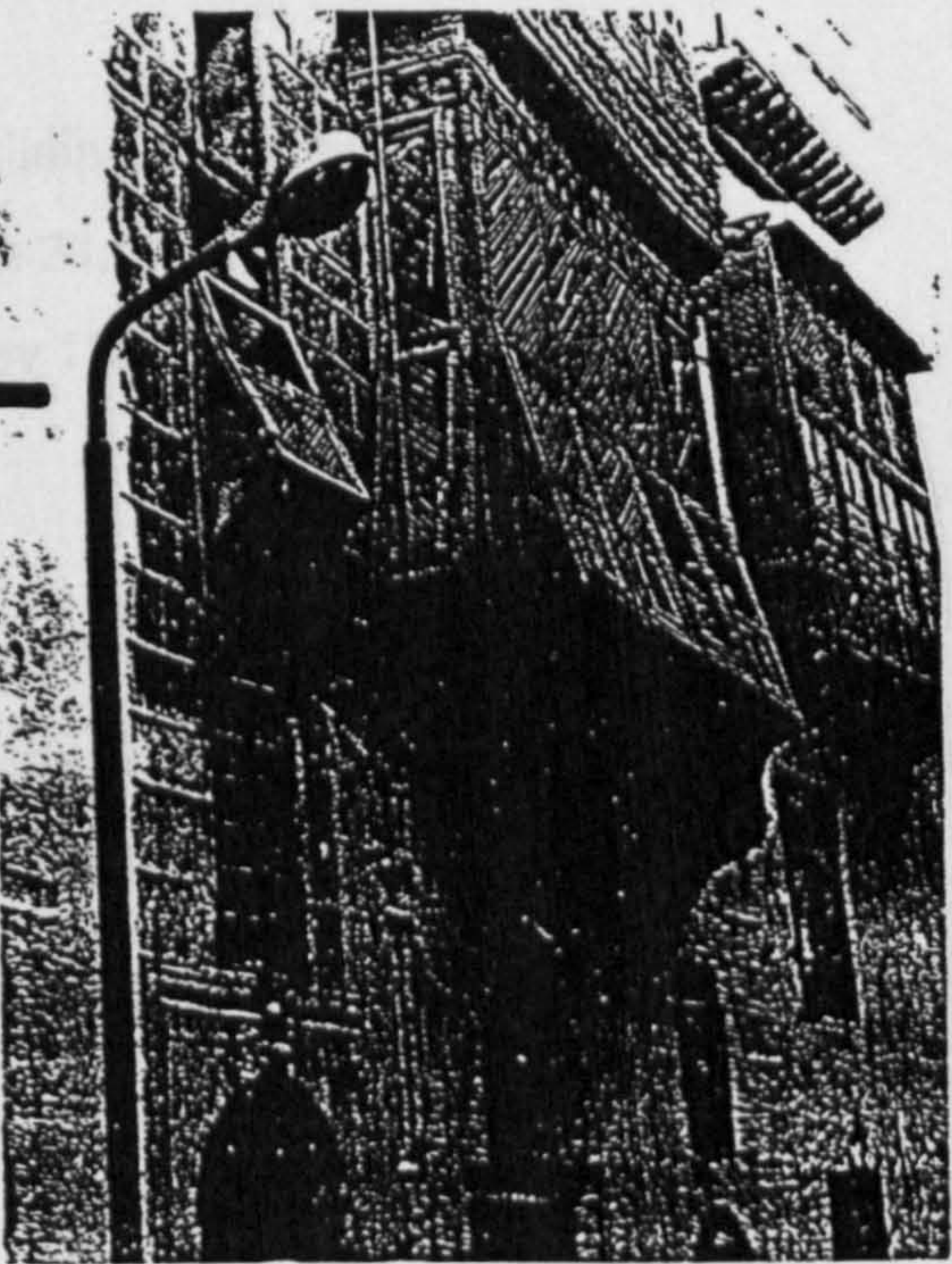
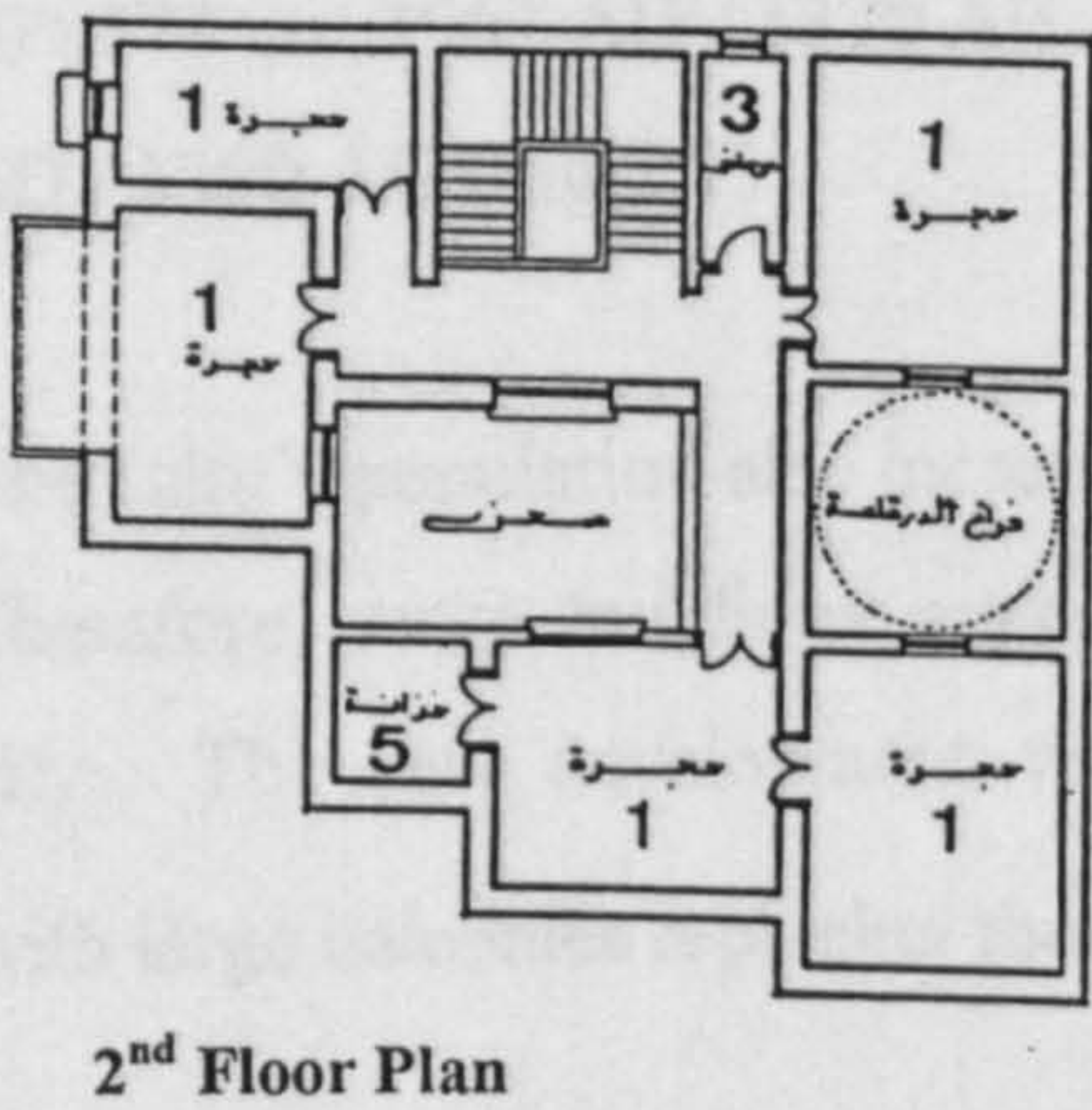
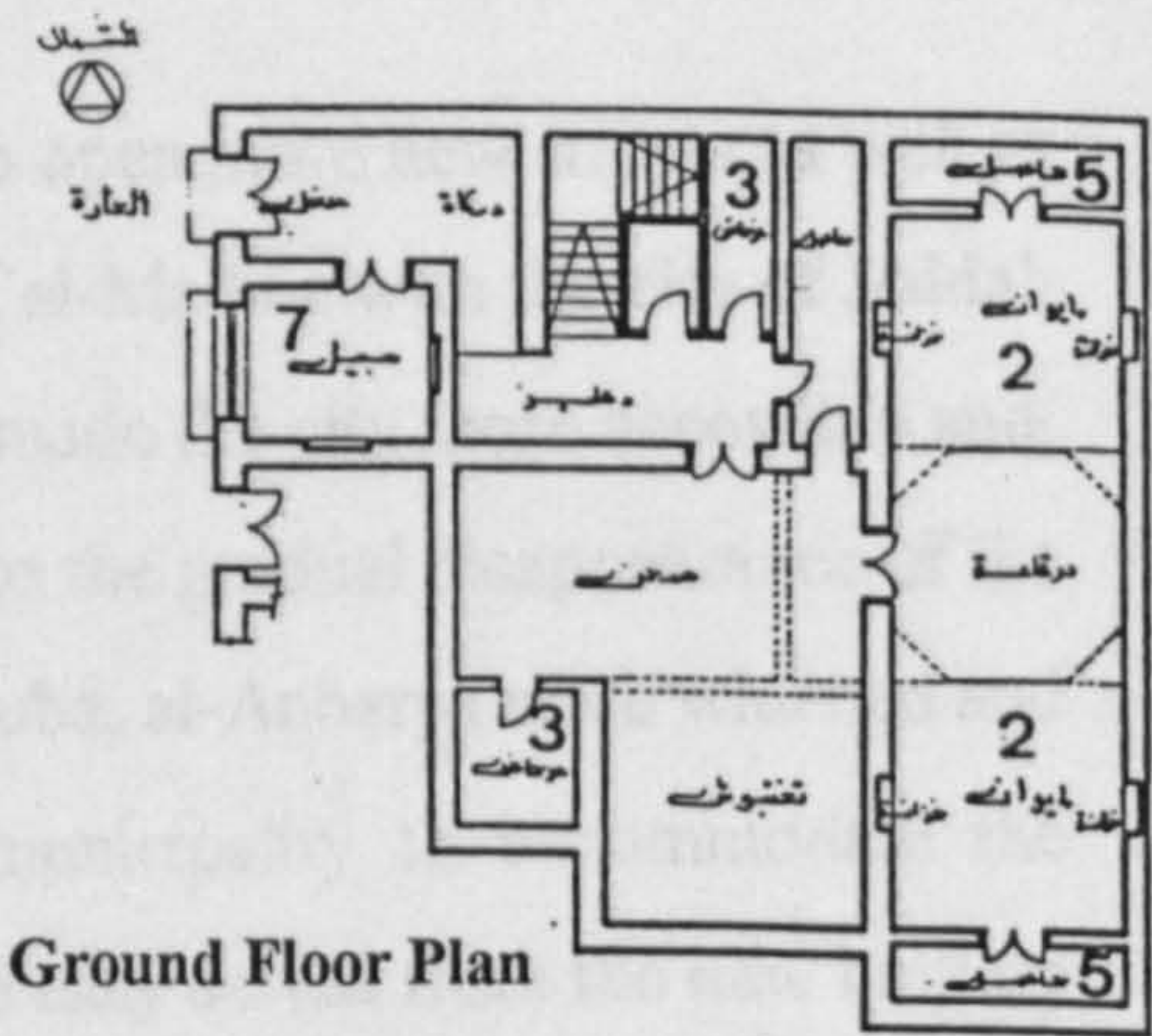
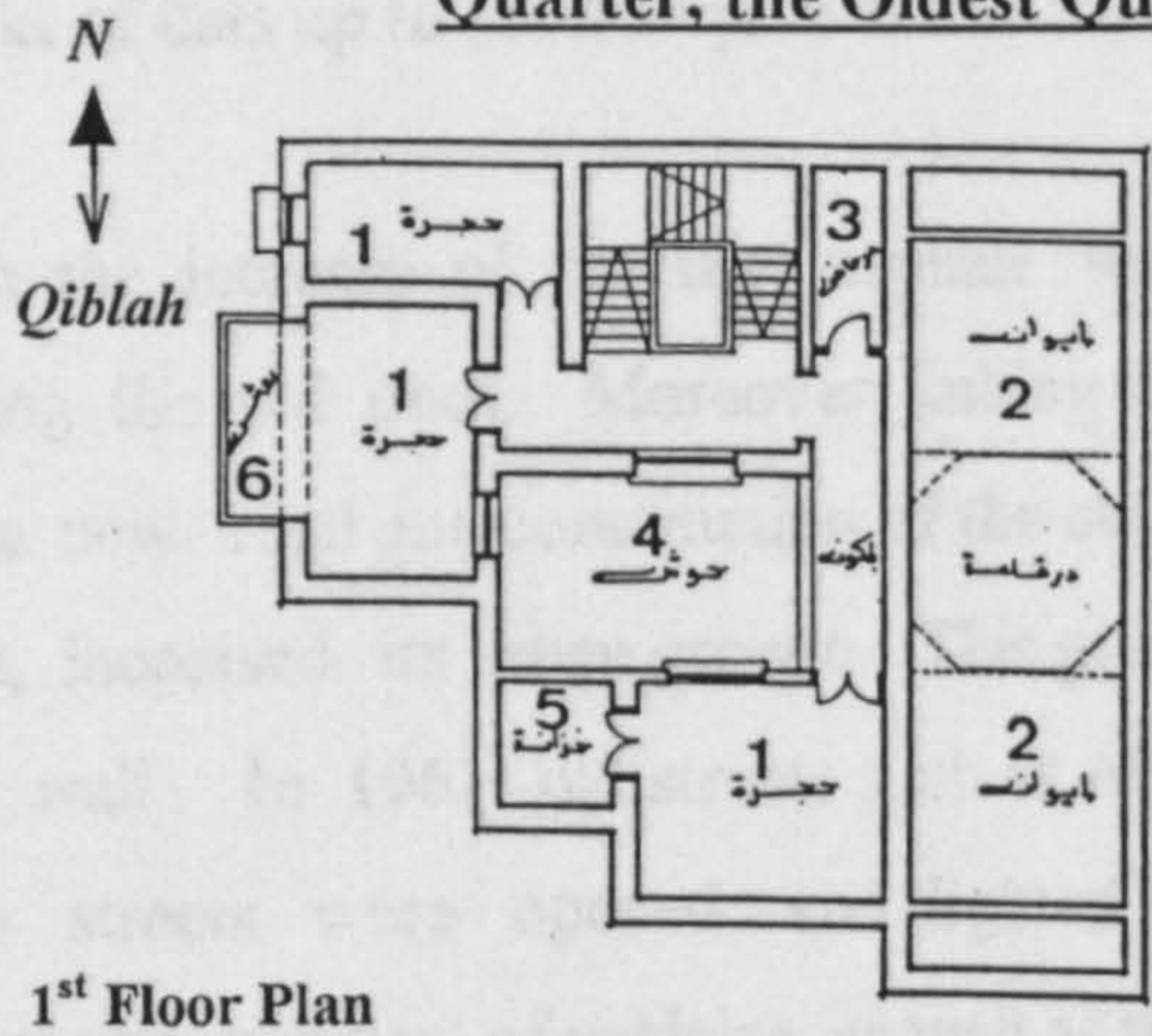
(Fig 2.10) Al Madina, Some Ahwash in Al - Anbara area, Outside the Internal Wall.

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Source : Hatim U. Taha, Tabah Wa Fanahia Al Rafi (Arabic) (Al Madina and its Superior Art). Nadi Al Madina Al Adabi, Book No. 95, p.65.

(Fig 2.11) Al Madina, Plans and View of a Private House in Al Aghwat's Quarter, the Oldest Quarter in the City,



- 1. Room (Hujrah)
- 2. Salon (Iwan)
- 3. Bathroom
- 4. Courtyard
- 5. Storage
- 6. Rawshan
- 7. Water fountain (Sabeal)

The West Elevation

Source : Mostafa, S. L, Al Madina Al Munawwara Urban Development Architectural Heritage, Dar Al Nahda Al Arabiya, Beirut, 1981, p. 230 - 231.

to an increase in the land prices. But those who received the compensation built new blocks of flats up to six storeys as hotels and Pilgrims flats ⁵³(Fig 2.12).

With the increase of car use, asphalt was used to open more new streets as well as paving the old ones. Moreover, linking the city of al-Madina with the city of Jeddah by a new road and construction of the city airport made the city more accessible and, thus, increased its urban growth. This growth led to the gradual disappearance of the city wall. In 1961 old streets such as Abi Dhr, Kuba, al-Anbarya were widened and new streets were opened and lighted by the municipality to accommodate the increasing number of vehicles, as well as to provide easy access from the new built up areas to the Haram ⁵⁴.

Also, more hotels, guest houses and apartment buildings were built around al-Haram to meet the number of pilgrims, who increased from 23,863 in 1942 AD / 1360 AH to 100,578 in 1951 AD / 1370 AH, then to 285,948 by 1380/ 1961 and 431,270 in 1971 AD / 1390 AH (Fig 2.13).

The city's population also increased from 40,000 in 1959 AD to 110,000 in 1969 AD. Therefore, more buildings were built in the suburbs which served as quarters of the city. The new development was characterised by high reinforced concrete buildings with large balconies replacing the old *rwashin* and outer courtyard villas ⁵⁵.

⁵³ Rutter, Eldon, The Holy Cities of Arabia, G. p. putnam's Sons Ltd. , London And New York, 1928. VII. PP. 184-261.

⁵⁴ Makki, Mohamed S. , Medina, Saudi Arabia, A Geographic Analysis of the City and Region, Avebury publishing company, England, 1982, pp. 44-50.

⁵⁵ Hafiz, Ali, Fusul min Tarikh al-Madina, 2nd ed. , Sharikat al-Madina al-Munwara Ittibaih wa al-nashir, Jeddah, 1984, p310-350.

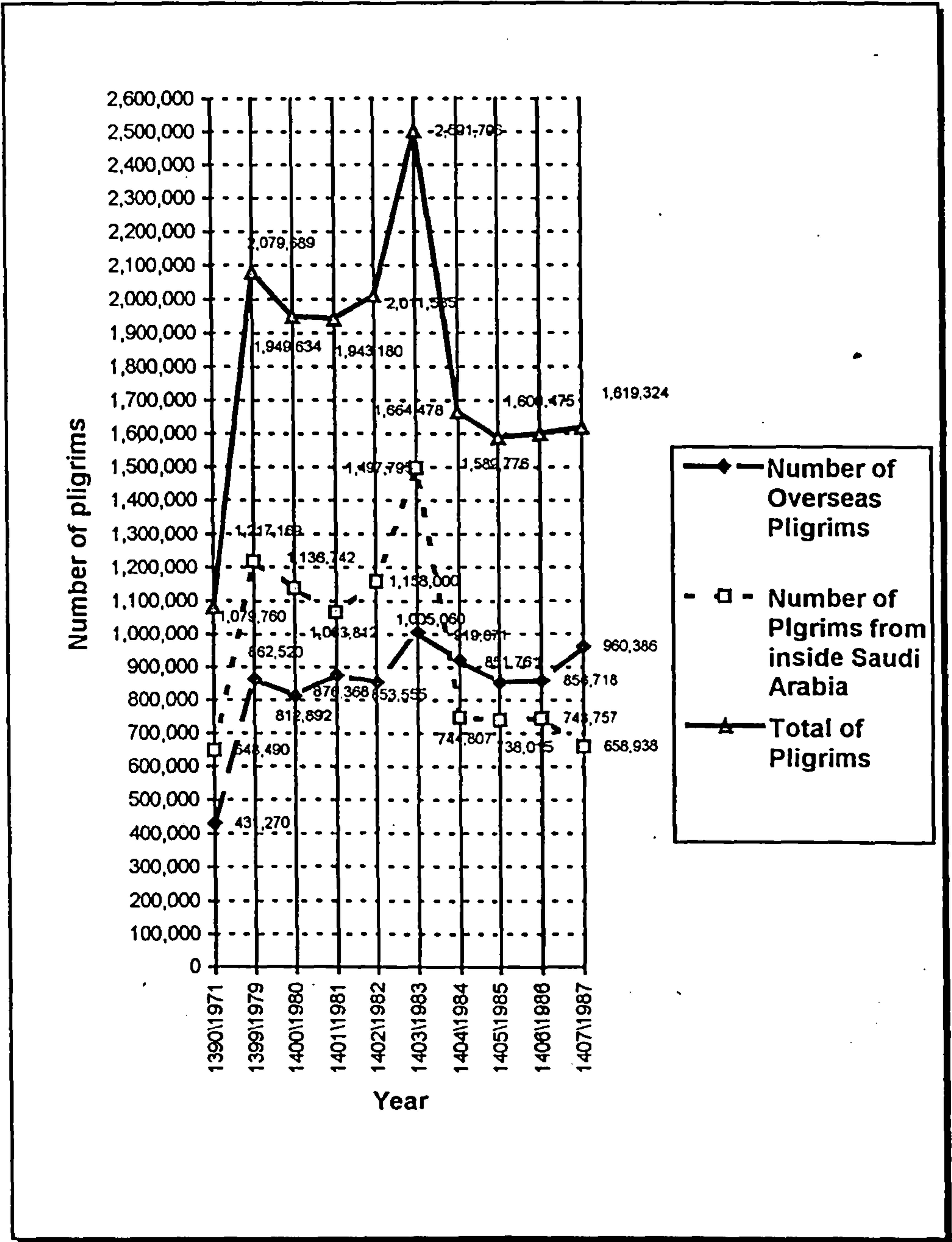
(Fig 2.12) Plan Of Al Madina, 1951 AD / 1370 AH

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Source : Al kheari, Y. Al Hait Al Egtemaia Al Madina Al Munawarah, (Arabic) (The Social Live Of Al Madina Al Munauara), 1993, Al Madina est. (Dar Al Alam), Jeddah , Saudi Arabia. P .O Box 4787, (Attached Page).

(Fig 2.13) Growth of Number of Pilgrims
(1971 - 1987 AD / 1390 - 1407 AH)



Source : (Adapted from) Director General of Passports, Pilgrims Statistics for 1406 A.H. 1986 A.C., Ministry of Interiors, Riyadh 1986, p.1 ; and Ministry of Pilgrimage and Endowments, Kabasat Min Endowments, Riyadh, 1987, P.406.

The increase in population and pilgrims resulted in the extension of King Faysal Bin Abdulaziz which started in 1970 when a large part of the old Quarter to the west of the Mosque was demolished, and in 1975 the rest up to al-*Manakha* street was cleared for constructing temporary canopies to provided a shaded area for Prayer ⁵⁶. Therefore, 45,000 square metres were added to the permanent building of the Mosque. (Fig 2.14)

With improvements in the economy in the 1970s, development of the city including all aspects of infrastructure such as electricity networks and water supply was implemented. Also, there were improvements in the community services such as schools and hospitals. Accordingly, the population of the city increased.

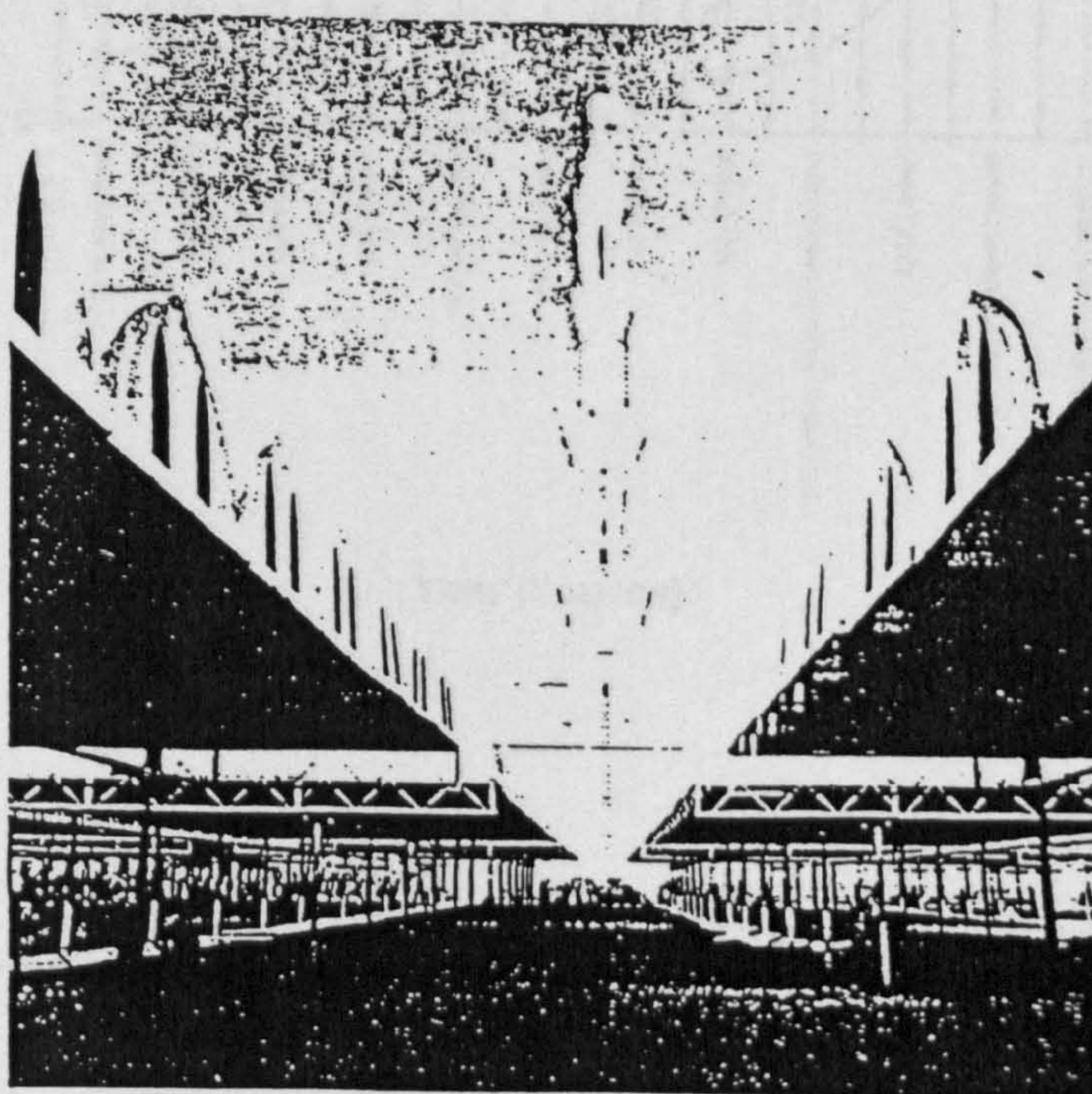
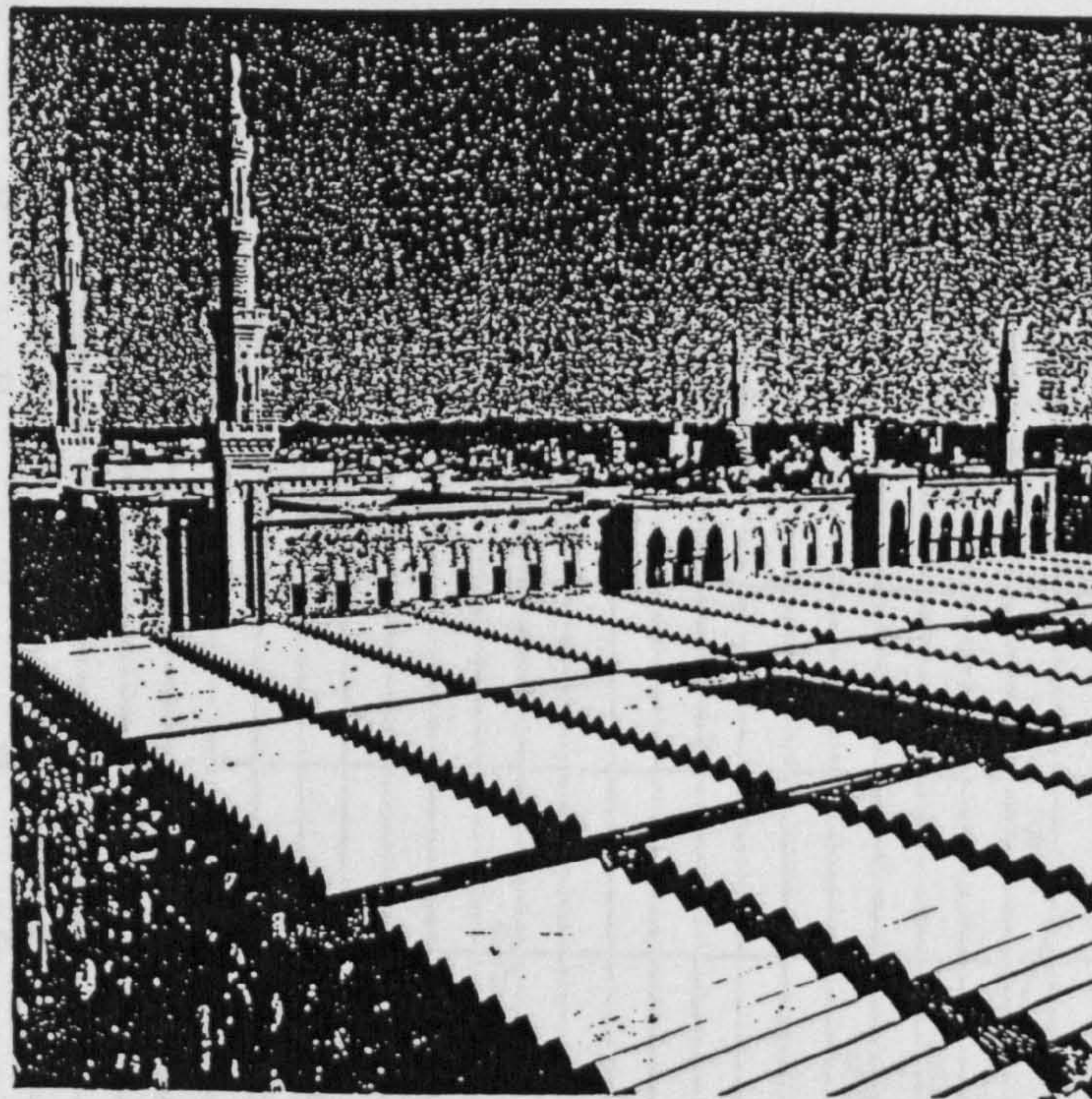
A survey carried out in 1978 by the GACDAR (Group of Arab Consultants for Development and Reconstruction) indicated that the population increased to 311,284 in 1978, and the urban area increased to 1,300 hectares in 1971 to 2,360 hectares in 1978 at a rate of about 8.9 percent a year. Also, the survey showed that the pilgrims visiting the city increased from 1,079,760 in 1390/1971 to 2,079,689 in 1399/1979⁵⁷ (Figs 2.15, 2.16 and 2.17).

The rapid economic growth in the period of 1970-1975 affected the increasing demand for housing, due to the migration of people from the rural areas to the cities and non-Saudi workers from outside to inside the country. This demand, which affected rents, encouraged the government to make several housing programmes. One of them was the formation of the Real Estate Development Fund (REDF) in 1974 to assist the development of private-sector housing by providing interest-free loans to citizens to construct their own houses. This loan (maximum £50,000) covers 70% of the construction cost to be repayable over a 25 year period. (REDF) has distributed more than \$ 21.3 billion in 10 years which helped in constructing 363,927 dwelling units.

⁵⁶ Makki, *op. cit.*, 45-55.

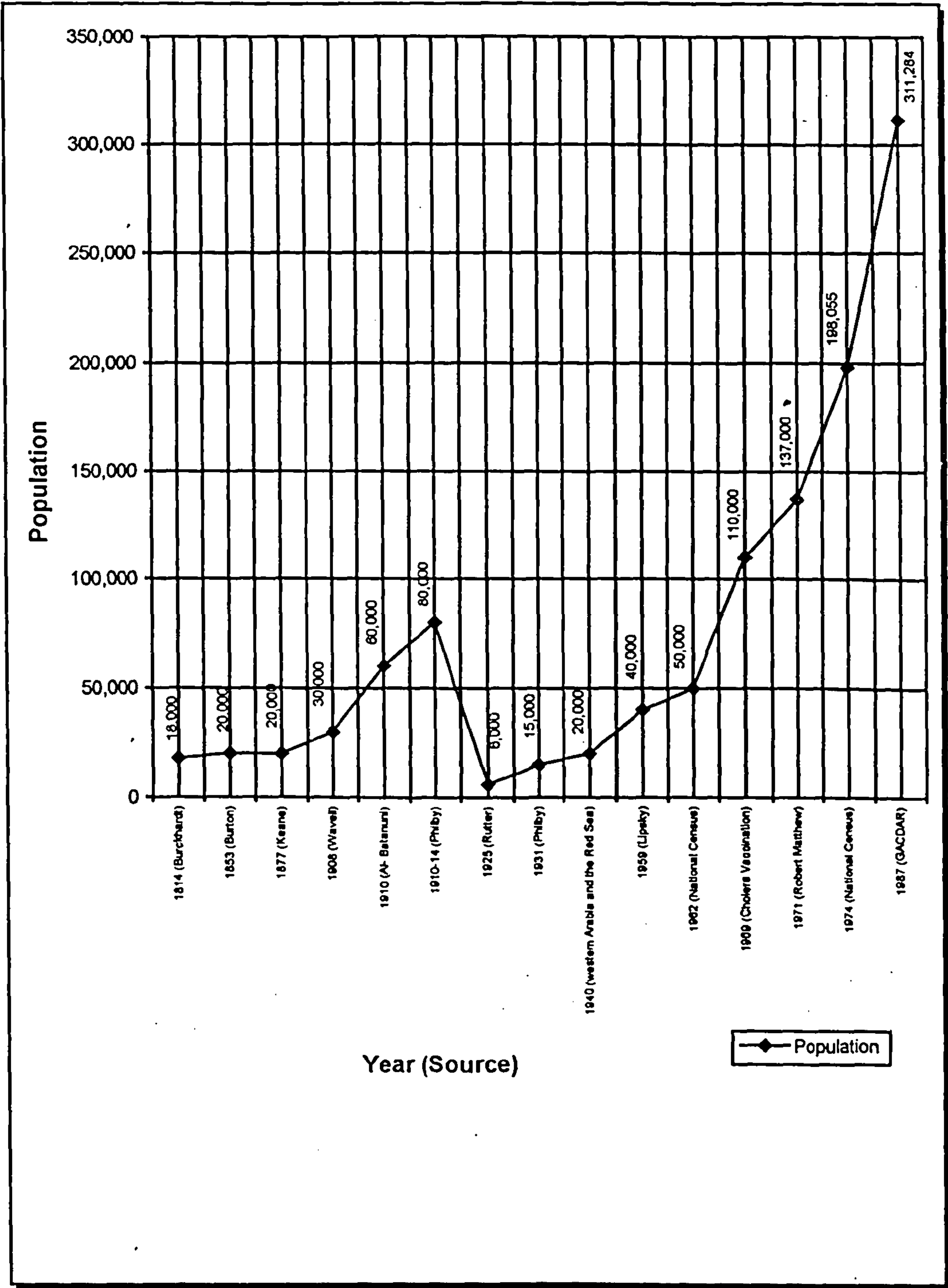
⁵⁷ GACDAR (Group of Arab Consultants for Development and Reconstruction), *Project No 202*, Ministry of Ministry of Municipal-and Rural-Affairs, Riyadh, Report No. 13, V. III, 1980. P. 21.

(Fig 2.14) Views of The Temporary Canopies Constructed in 1975 to Provided a Shaded Area for Prayer



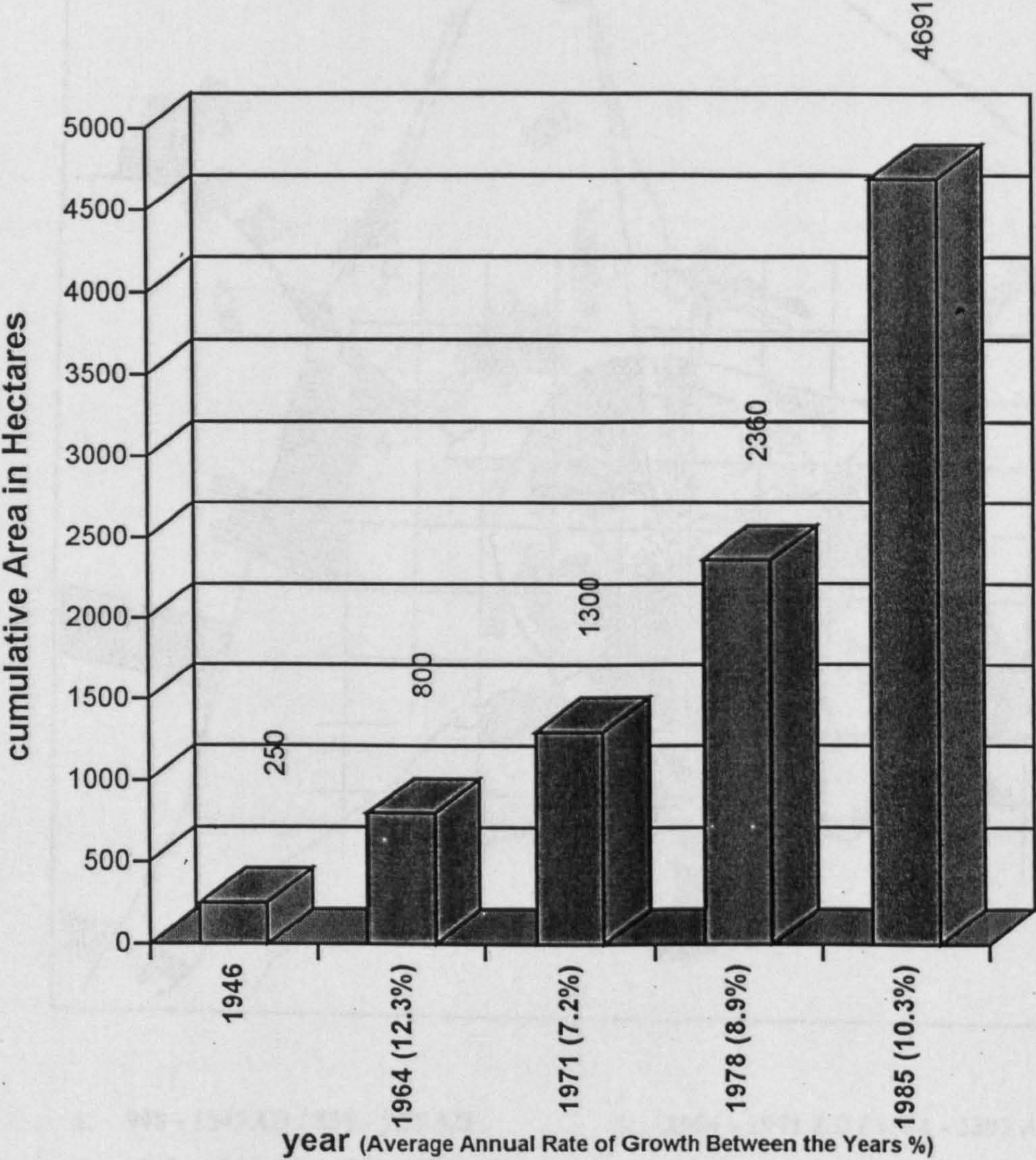
Source : Naji Al Ansairi (1996) Omarat wa Tawsait Al masjid Al Nabui Al Sharif Aber Al Taregh, Arabic, (construction and extension of the prophet mosque through history), Nadi Al Madina Al Adabi, Book No. 95, 1st edition Pp. 188 - 190.

(Fig 2.15) Population Growth in al-Madina
(1814 - 1978 AD)



Source : (Adapted from) Makki, M.S., Madina Saudi Arabia, England, 1982, Pp. 90-95;
GACDAR, op. Cit., Report No. 5, V.I, October 1980, p.21

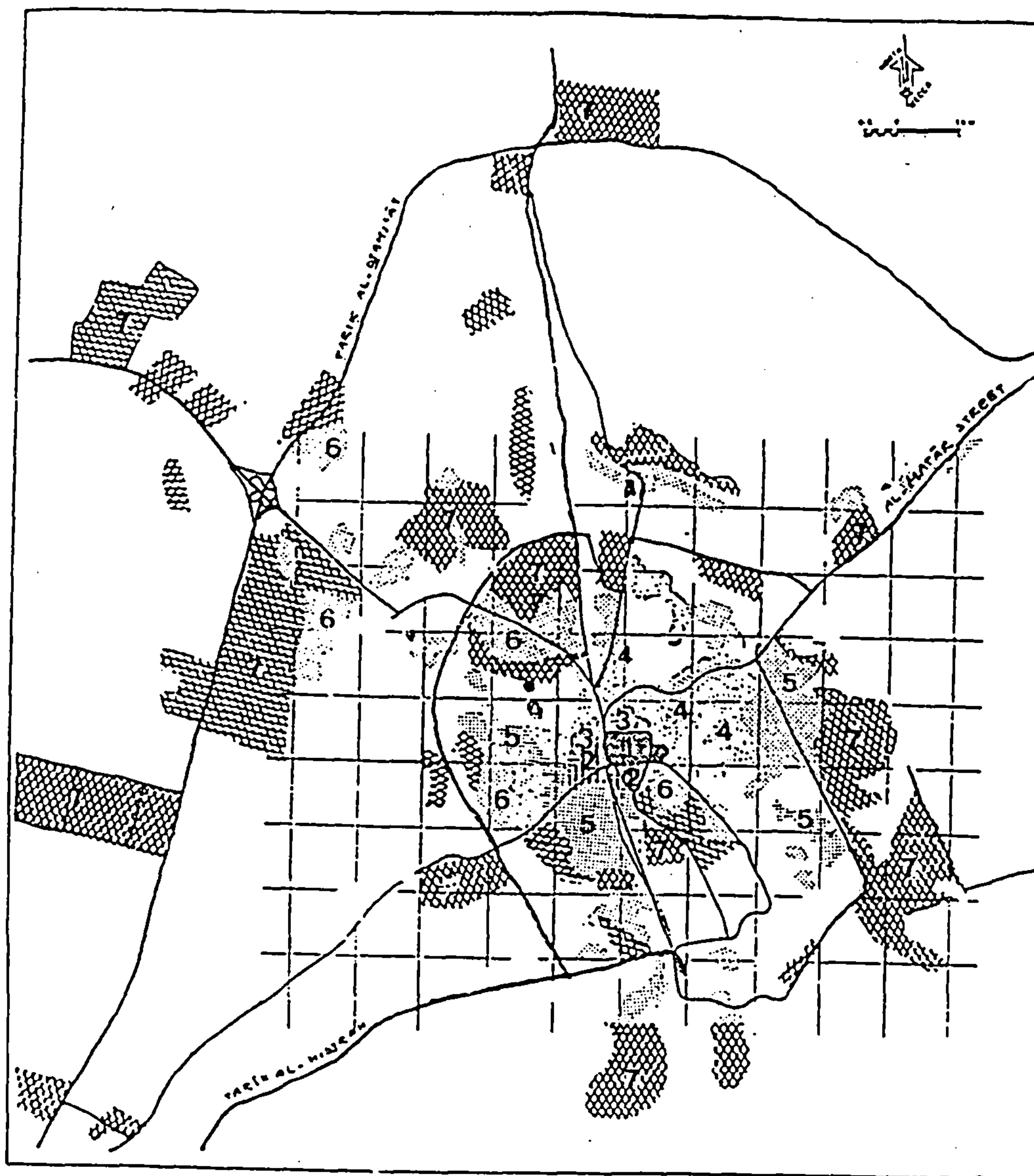
(Fig 2.16) The Growth of the Urban Area of al-Madina
(1946 - 1985 AD)



Source : (Adapted from) GACDAR, op. Cit., Report No. 5, V.I, October 1980, p.23 and Amanit al-Madina Al Munawarah, Drasat Al Nitak Al Umrani, al-Madina, 1987, Table 1.

(Fig 2.17) Al Madina, Evolution of the Built-up Area
(948 - 1985 AD / 335 - 1405 AH)

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|------------------------------------|------------------------------------|
| 1. 948 - 1549AD / 335 - 956 AH | 5. 1964 - 1971 AD / 1384 - 1391 AH |
| 2. 1549 - 1865 AD / 956 - 1280 AH | 6. 1971 - 1978 AD / 1391 - 1398 AH |
| 3. 1865 - 1946 AD / 1280 - 1364 AH | 7. 1978 - 1985 AD / 1398 - 1405 AH |
| 4. 1946 - 1964 AD / 1364 - 1384 AH | |

Source : GACDAR, op. Cit., Report No. 5, III, October 1980, p.24; and Amanit Al Madina Al Munawarah, Drasat Al Nitak Al Umrani, Al Madina, 1987.

On the other hand, there was a severe shortage of most construction materials, as well as a shortage of construction labour, and an increase in land prices. People were forced on to cheaper land on the perimeter of urban areas beyond the utilities network (which would be expensive to extend to those areas). The design of these houses are what could be called ready-made designs which were copied mostly from foreign architects who ignored traditional Muslim architecture⁵⁸.

al-Saati conducted a structured interview with members of households living in dwelling units constructed with REDF loans in al-Madina to measure mainly the attitudes with respect to the social and physical conditions of their new environments. The survey, which was carried out between September 1984 and March 1985, showed that the respondents experienced some problems related to their dwelling such as privacy-related problems which, unlike in traditional houses, were very high due to the new architectural elements of yard, balcony and transparent glass windows.

Also, there were design-related problems because of the way the dwellings were constructed, such as the difficulty of changing the spatial arrangement to accommodate future needs. Moreover, there were maintenance/structural-related problems such as losing plaster and leakage problems due to unskilled builders and a lack of professional supervision. Yet 87% of respondents were satisfied with their dwellings "as a place to live". This rating, according to al-Saati, may be affected by factors such as length of stay, level of education, age and characteristics of dwelling. On the other hand, 87% of respondents were satisfied with their neighbourhoods as "a place to live". The rating could be affected by the neighbourhood characteristics, land use, privacy level and the proximity to relatives or friends. However, the respondents show that problems related to the neighbourhood included street-related conditions which were mostly the lack of sidewalk and street lighting. Also noise and traffic were problems in the new neighbourhoods. Moreover, lack of neighbourhood services such as recreational facilities, sewerage system and parking areas affected their level of satisfaction with the new neighbourhood. al-Saati indicated that answers to "how do

⁵⁸ Municipality of al-Madina, Dirasat al-Natak al-umrani, Table 2. Section 3. 2

respondents compare present neighbourhood to previous one ?” showed that 69% of the respondents found the present one more satisfactory although factors such socialisation were likely to be better in the previous neighbourhood ⁵⁹.

The increase of the population and pilgrims with the improvement of economic conditions resulted in an increase in automobiles. Therefore, further areas of the old city were cleared for constructing new roads and widening the old ones. The first ring road which encircles the Haram Area was constructed to improve the traffic flow, but it resulted in the demolition of many traditional buildings with *ahwash* as well as exposing the Haram area to traffic, noise, pollution and danger.

2.4 Summary

We notice that the topography of al-Madina, surrounded by mountains and valleys, had an impact of the city growth and development. The city gained its importance first when the Prophet Mohammed and his companions migrated to it in 622 AD when he built his Mosque as a centre of the new community. The companions built their houses around the Prophet's Mosque and formed the nine quarters of the city. The city continued to grow during the time of the Orthodox caliphs and the first appearance of the effect of enlargement of the Prophet's Mosque, or what could be called the internal growth of the city, occurred in 638 AD during the time of 'Umar Bin al-Khatib. The extension of the Mosque resulted in the demolition of some of the Prophet's companions' houses, and even later on involved incorporation of the Prophet's wives' houses into the Mosque during the Umayyad caliphate of al-Walid Bin 'Abd al-malik.

A wall was built around the city for the first time in 263 AH (816 AD) during the Abbasid Period, but that did limit the city's growth beyond it. During the Mamluk period, the dome was used for the first time as an architectural element in the city.

⁵⁹ AL-SAATI, A. J. (1987), 'Residential-satisfaction in subsidised housing: an evaluation study of the Real-Estate Development Fund Program in Saudi Arabia'. Unpublished Ph. D. Thesis, The University of Michigan.

Also during the Sultan Qayt Bay period, a reconstruction of the Prophet's Mosque was carried out after it was burned by lightning.

The improvement of the city during the Ottoman period was noticed during the reign of Sultan Sulayman al-Qanuni when the city consisted of two parts, the interior town, which consisted of 28 small quarters, and the suburbs. The houses of the city were mostly two storeys high. The biggest enlargement of the Prophet's Mosque during the Ottoman period was carried out by Sultan Abdulmajed in 1839 - 1861 AD (1255 - 1277 AH), which involved the demolition and reconstruction of the Mosque. The construction of the Hijaz railway under Ottoman Caliphate Abdul Hamid had a great impact on increasing the number of pilgrims and the development of the city.

In 1925 al-Madina became one of the cities of the Kingdom of Saudi Arabia. The city which became about 2 square miles consisted of the interior town, the camp (al-Manakha) and the suburbs. At that time the city streets were very narrow and partly roofed, when the houses were built so close to protect the residents from the harsh hot climate. The first enlargement for the Prophet's Mosque during the Saudi Era was in 1951 AD (1370 AH) by King Abdulaziz when the Mosque area was expanded to 16,327 m².

The urban pattern of the city was influenced by the introduction and increasing use of cars. Accordingly, new wide streets were opened and the old narrow streets were widened. The increase in city population and pilgrims whose numbers reached 431,270 by 1971 AD motivated building more hotels and apartment buildings around al-Haram. Also the increase of both visitors and citizens of al-Madina resulted in further extension of al-Haram by King Faysal Bin Abdulaziz. This extension involved demolition of the old quarter and construction of temporary canopies to provide a shaded praying area.

The city growth increased as a result of economic development and the formation of the Real Estate Development Fund (REDF) in 1974 during the reign of King Khaled

Bin Abdulaziz. This involved both the outside perimeter as well as the centre of the city, consequently many traditional buildings were replaced by new buildings.

The biggest ever enlargement of the Prophet Mosque occurred in the period of King Fahad Bin Abdulaziz. This period which started in 1983 will be discussed in more detail in the following chapter .

CHAPTER 3 The Contemporary Built Environment Of Al Madina

3.1 Introduction

For the purpose of designation, the starting point of the contemporary period was the time when King Fahad Bin Abdulaziz took over the government of Saudi Arabia in 13/5/1983 AD (12/8/1402 AH), which was followed by his visit to the city in 10/1983 AD (1/1403 AH). During that visit he noticed the crowding in the Prophet Mosque and decide to make the largest ever extension of al-Haram. He announced:

“ We will work to make al-Madina one of the most beautiful cities in the world” ¹.

This period coincides with the designation of Amir Abdulmajed Bin Abdulaziz as Amir of al-Madina in 1986 AD (15/5/1406 AH).

“The visitor to al-Madina today will find it as a workshop”. (Amir Abdulmajed) ²

¹ al-Amani, (The Municipality of al-Madina Magazine). Eng. al-Housien Abdulaziz (General Supervisor), Falah al-Juhany (Eds.). No 12 Sha'ban 1416 AH (Jan. 1996 AD). (Arabic) Printed in al-Madina est. (Dar al-Allm) Press, Jeddah, Kingdom of Saudi Arabia, P.O Box 4797. P.1.

² al-Amani, Ibid. op.cit. No 12, P.1.

3.2 The Contemporary Urban Layout Of al-Madina

3.2.1 Comprehensive plan of the city:

In 1988 AD (1408 AH) the government made a contract with Dar al-Handash for design and consultancy. The contract which cost 10 million SR (about £1.67 million) for seven years involved studying the planning and development of the city. Also it included the predicted development in the future up to 2,010 AD (1430 AH).³

3.2.2 The Contemporary Land Use Pattern of The City

Analysis of land use of the build up area shows that housing was distributed in all parts of al-Madina , yet it was concentrated in two main parts, the Quba and al-Awally areas. In addition, the percentage of commercial use was higher in al-Aqiq area, but there is no concentration of sport and entertainment facilities in any of the main areas. Conversely, the services activities were concentrated in al-Ayoun area. Also the industrial land use was high in al-Aqiq area and low in the other parts of the city.

During the period 1978 - 1990 AD (1398 -1410 AH) urbanisation increased by 142 %, industrialisation by 1, 627 % , agriculture by 396 %, roads by 232 % and the number of vacant lots doubled in the same period.

The study also indicated that there were three patterns for residential areas; first the planned residential area which represents 68.4 % of the total residential area of al-Madina . The second pattern is the redeveloped housing representing 4.2 %, and the third pattern is the unplanned “haphazard” residential area which represents 27.4 % of the total housing area of the city.⁴

³ al-Amani, Ibid. op.cit, No 12, Sha'ban 1416 AH (Jan. 1996 AD)P.110.

⁴ Numbers and progresses, *Amanit al-Madina* al-Munawwarah. Second Edition, (Arabic) Press of *Amanit al-Madina* al-Munawwarah, 1415 AH (June. 1995 AD). p.96.

The city was also characterised by the mixed land use (residential and commercial activity in the same building). Therefore, the area with this type of use represents 16.7% of the total area of residential parts of the city. (Fig 3.1)

Classification of the residential buildings in terms of height and condition showed that 82.7% of the residential buildings of the city were between one and two storeys high and 34.2% of the buildings were in good condition. Those in bad condition represented 34.7% of the total number of buildings.⁵

The analysis indicated that educational facilities (preliminary, intermediate and high schools) were not distributed well among the main area of the city according to the number of residents in each area. Therefore, it was noted that the number of students increased in some school areas and decreased in others, more than the mean of the whole city. The study shows that the reason might be due to the students' unwillingness to move between the different parts of the city to gain an education.⁶

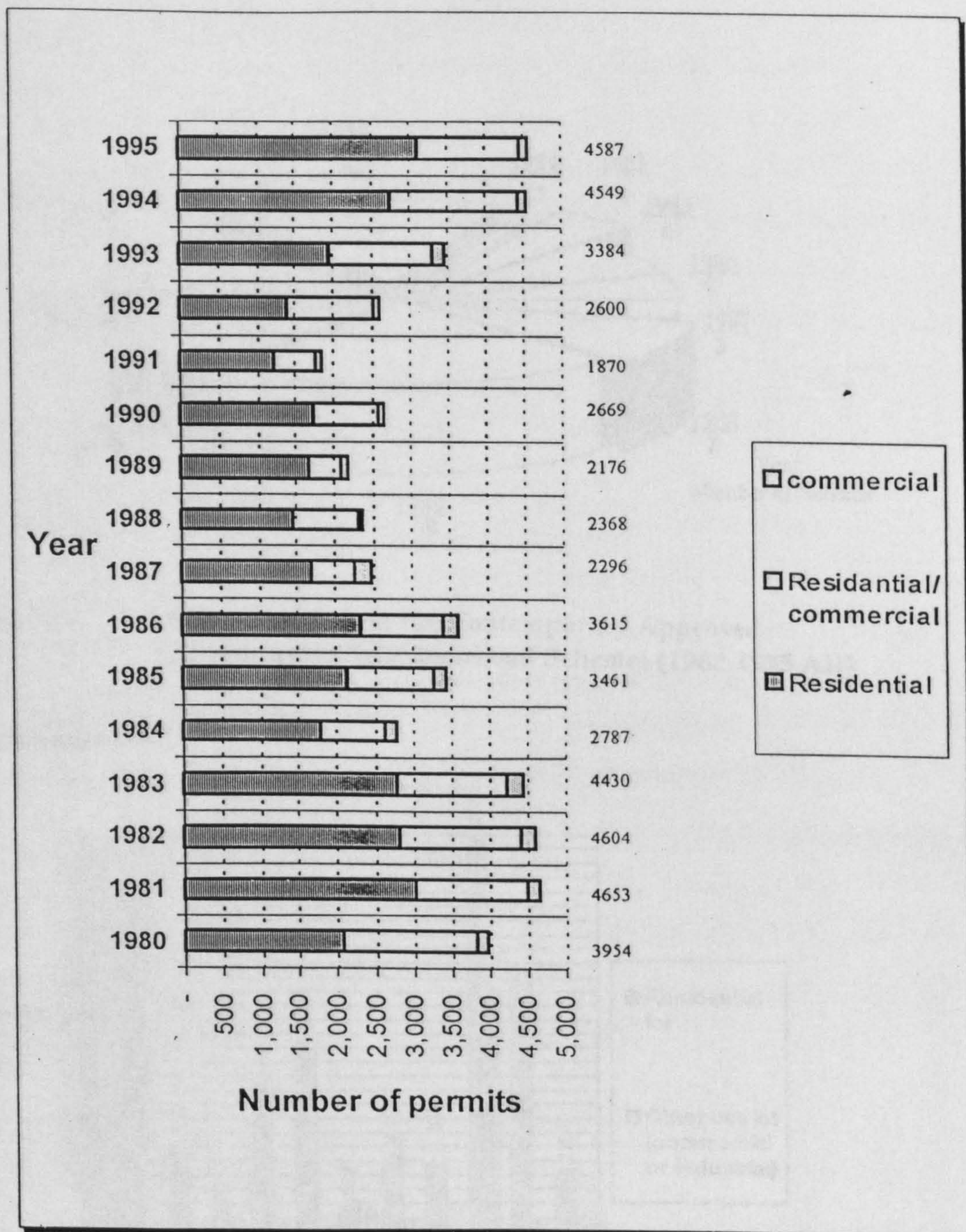
3.2.3 The Contemporary Approved Neighbourhood Schemes:

The new development in the city centre of al-Madina which includes the demolition of many buildings for the Haram expansion, the formation of the Real Estate Development Fund (REDF), and the increase in the economy which motivated the immigration of people from the rural areas to the city, all resulted in high demand for land for new houses. This resulted in many approved neighbourhood schemes. Fig 3.2 and Fig 3.3, show that *Amanit al-Madina* approved 75 new government plans between the year 1986 and 1995 AD (1406 to 1415 AH). These new governmental development neighbourhoods comprised 22,736 lots for residential purposes and about 4,480 lots for commercial and industrial purposes.

⁵ Numbers and progresses, *Amanit al-Madina al-Munawwarah*. Second Edition, (Arabic) Press of *Amanit al-Madina al-Munawwarah*, 1415 AH (June. 1995 AD). p.96.

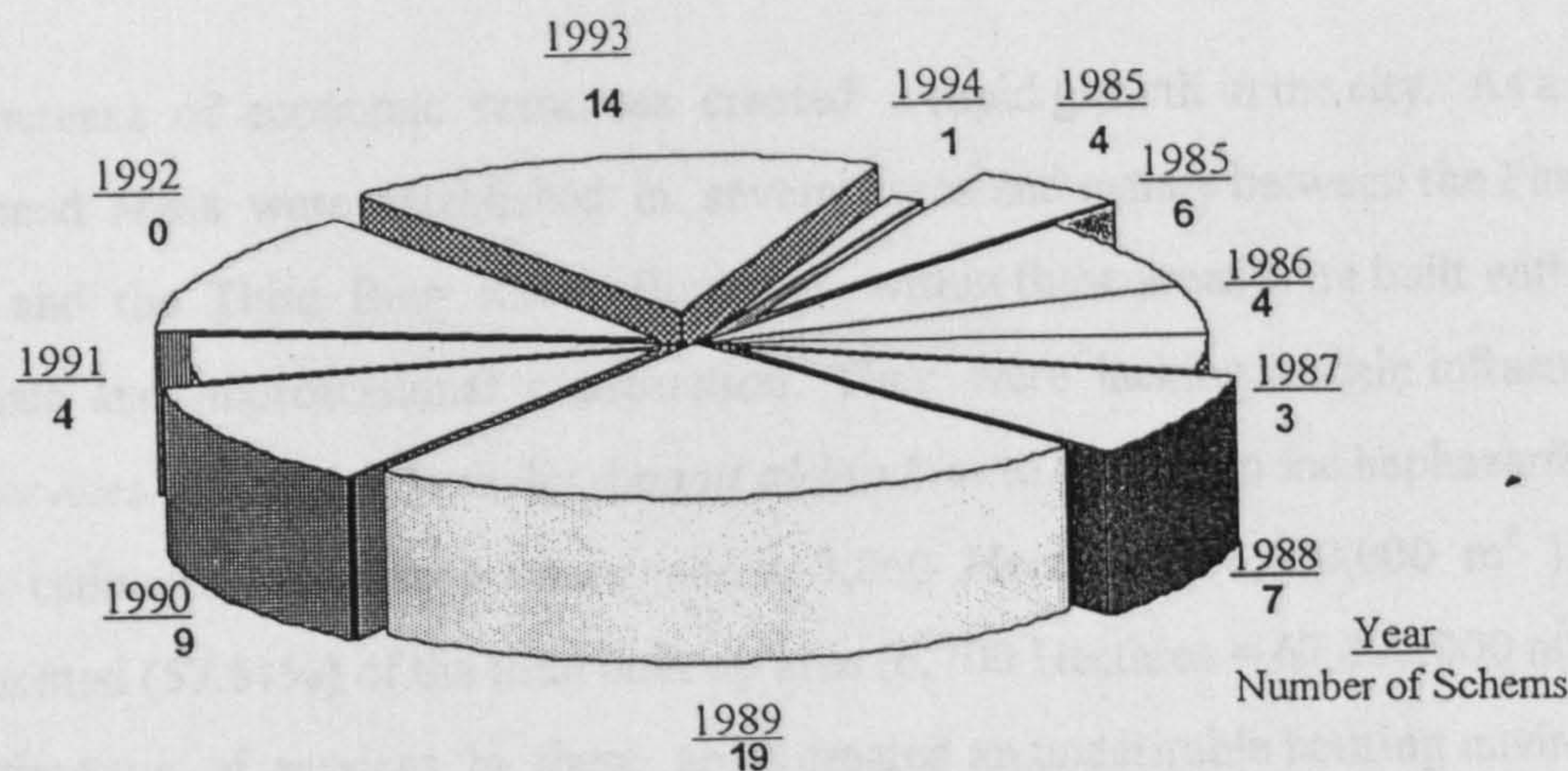
⁶ Numbers and progresses, *Amanit al-Madina al-Munawwarah*. Second Edition, (Arabic) Press of *Amanit al-Madina al-Munawwarah*, 1415 AH (June. 1995 AD). p.97.

(Fig 3.1) Number of Permits for Each of the Building Types
(1980-1995 AD)

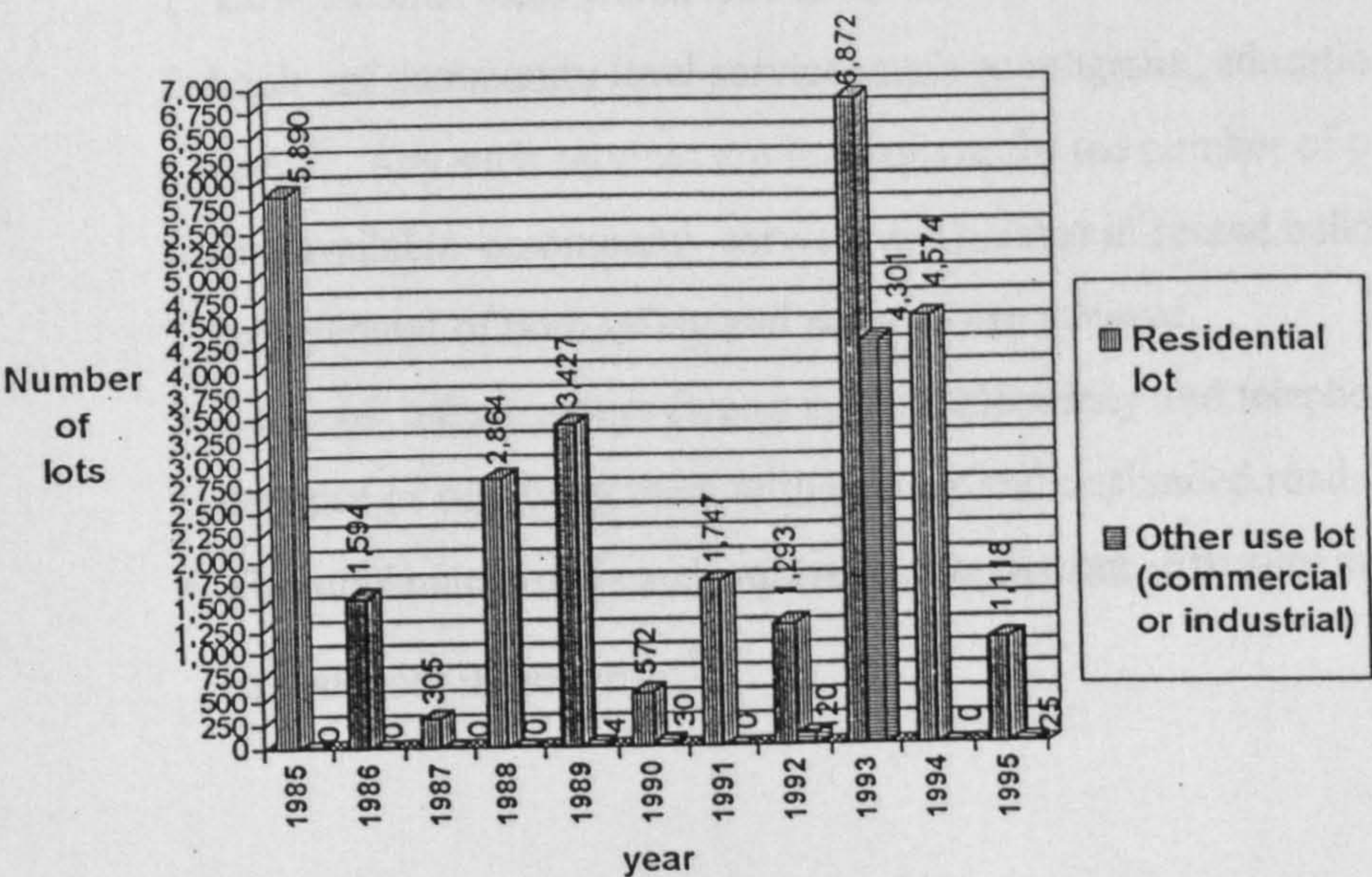


Source : (Adapted) Al Amani, (The Municipality of Al Madina Magazine). Eng. Al Housien Abdulaziz (General Supervisor), Falah Al Juhany (Eds.). No 12 Sha'ban 1416 AH (Jan. 1996 AD). (Arabic) Printed in Al Madina est. (Dar Al Allm) Press, Jeddah, Kingdom of Saudi Arabia, P.O Box 4797. P.119

(Fig 3.2) Number of Contemporary Approved Governmental Neighbourhood Schemes (1985-1995 AD)



(Fig 3.3) Number of Lots in the Contemporary Approved Governmental Neighbourhood Schemes (1985-1995 AD)



Source : (Adapted) Al Amani, (The Municipality of Al Madina Magazine). Eng. Al Housien Abdulaziz (General Supervisor), Falah Al Juhany (Eds.). No 12 Sha‘ban 1416 AH (Jan. 1996 AD). (Arabic) Printed in Al Madina est. (Dar Al Allm) Press, Jeddah, Kingdom of Saudi Arabia, P.O Box 4797. P120.

Also, for the same period, the private development plans which were also approved by *Amanit al-Madina* reached 85 schemes encompassing 17,042 residential lots and 628 lots for commercial or industrial purposes.⁷ (Fig 3.4 and Fig 3.5)

3.2.4 The Redevelopment of Unplanned “Haphazard” Areas:

The increase of economic resources created a rapid growth in the city. As a result, unplanned areas were established in several areas and mainly between the First Ring Road and the Third Ring Road. Buildings within these areas were built with cheap materials and unprofessional construction. They were lacking in main infrastructure and services. A study done by *Amanit al-Madina* to redevelop the haphazardly built areas estimated that they were about 3,860 Hectares (38,600,000 m²) which represented (57.61%) of the total built up area (6,700 Hectares = 67,000,000 m²).

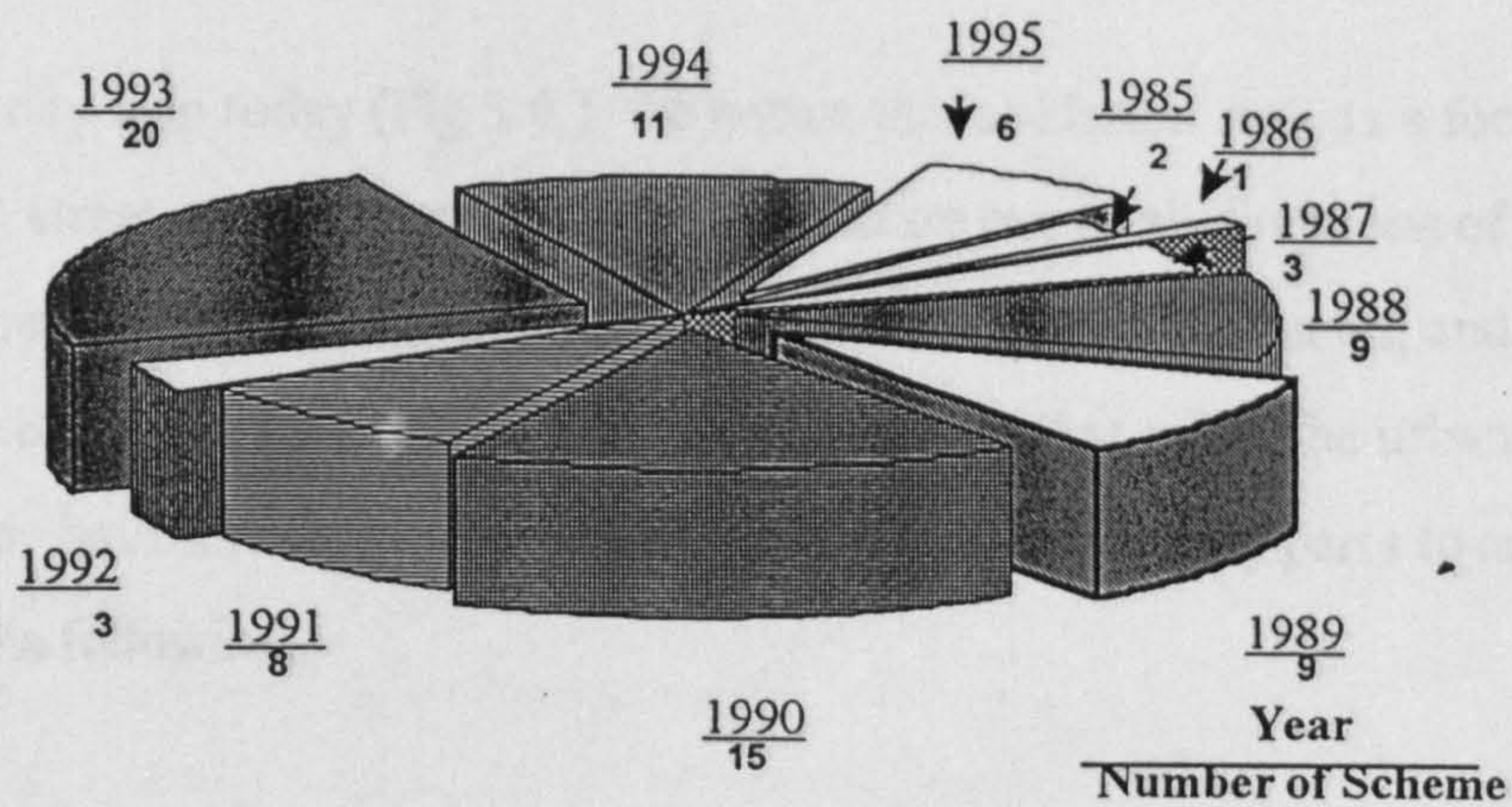
The shortage of services in these areas created an undesirable housing environment which forced their dwellers to move to the areas with better services. Actually, they left them to those with less income. Gradually, these areas were occupied by labourers and became very crowded and had many problems. According to al-Amani report, the study shows that the main problems were related to:

1. Low income class which leads to an increase of undesirable behaviour.
2. Lack of community level services such as religious, educational, health and social. Any such services are inadequate for the number of people. Most of the available community services are located in rented buildings where the requirement of both safety and security are minimal.
3. Lack of infrastructure (water system, electricity and telephones) due to the expense of supplying them with unclear and unplanned roads.
4. The unplanned roads and walkways create some difficulty in the traffic flow to and from these areas.⁸

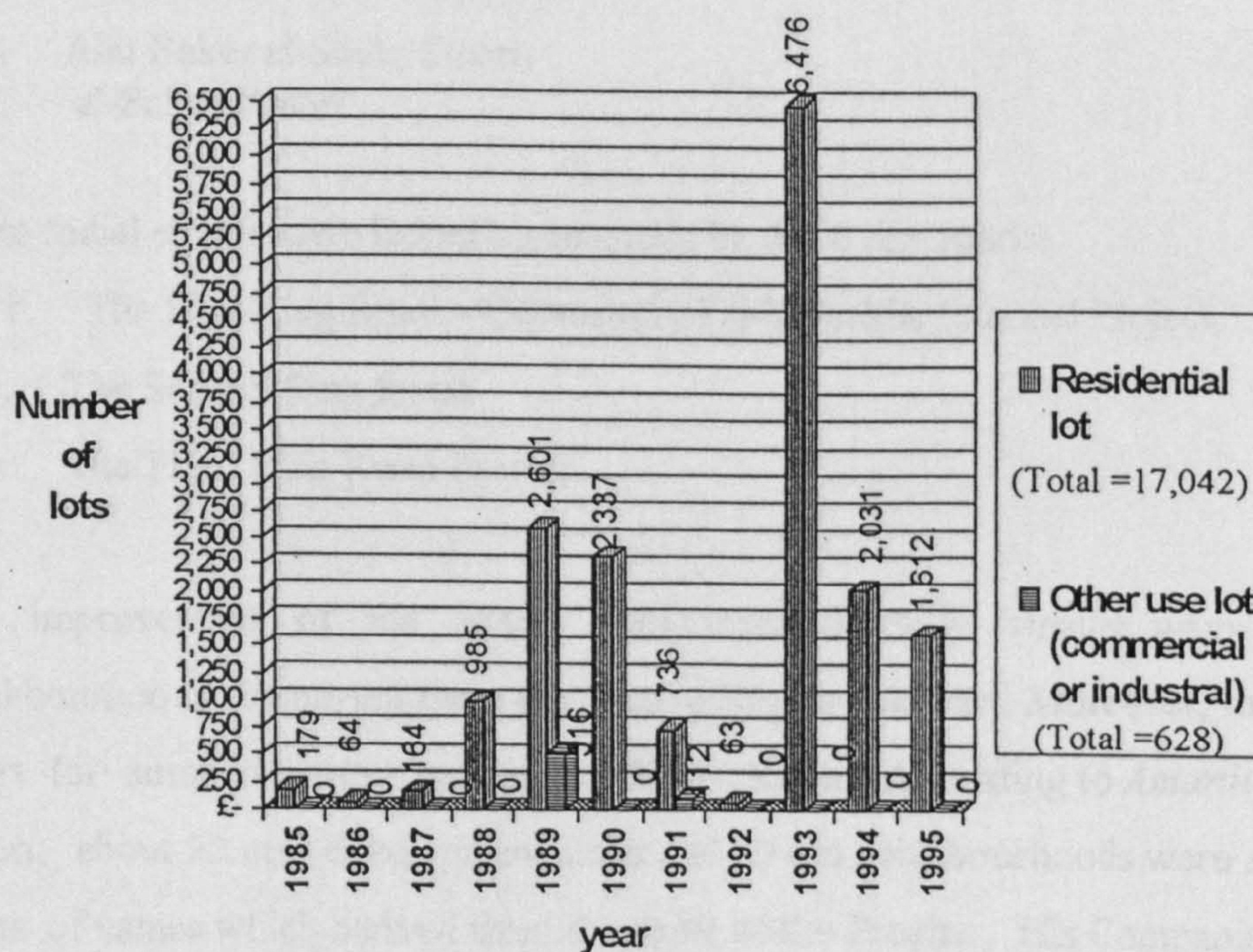
⁷ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). Pp120-121.

⁸ The study, which involved eighteen haphazard areas, tried to solve the above problems. (Source: al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). Pp112-113.)

(Fig 3.4) Number of Contemporary Approved Private Neighbourhood Schemes (1985-1995 AD)



(Fig 3.5) Number of Lots in the Contemporary Approved Private Neighbourhood Schemes (1985-1995 AD)



Source : (Adapted) Al Amani, (The Municipality of Al Madina Magazine). Eng. Al Housien Abdulaziz (General Supervisor), Falah Al Juhany (Eds.). No 12 Sha'ban 1416 AH (Jan. 1996 AD). (Arabic) Printed in Al Madina est. (Dar Al Allm) Press, Jeddah, Kingdom of Saudi Arabia, P.O Box 4797. P121.

3.3 al-Madina Streets and Roads :

During the last fifteen years, al-Madina was affected by the economic boom in Saudi Arabia, therefore, there was an increase in the city urban area. This growth led to construction and expansion of the city's road system.

Looking at the city map today (Fig 3.6), we notice that al-Haram acts as a focal point where a radial street system (rays) starts to penetrate out to all directions of the city and some of them lead to other cities such as Makkah and Jeddah, Yanbu, and Tabuk. (Fig 3.7, Fig 3.8 and Fig 3.9). The main streets of the city that affect the urban pattern of the city and have impact on the pilgrim movement from the city parts to and from al-Haram are the following:

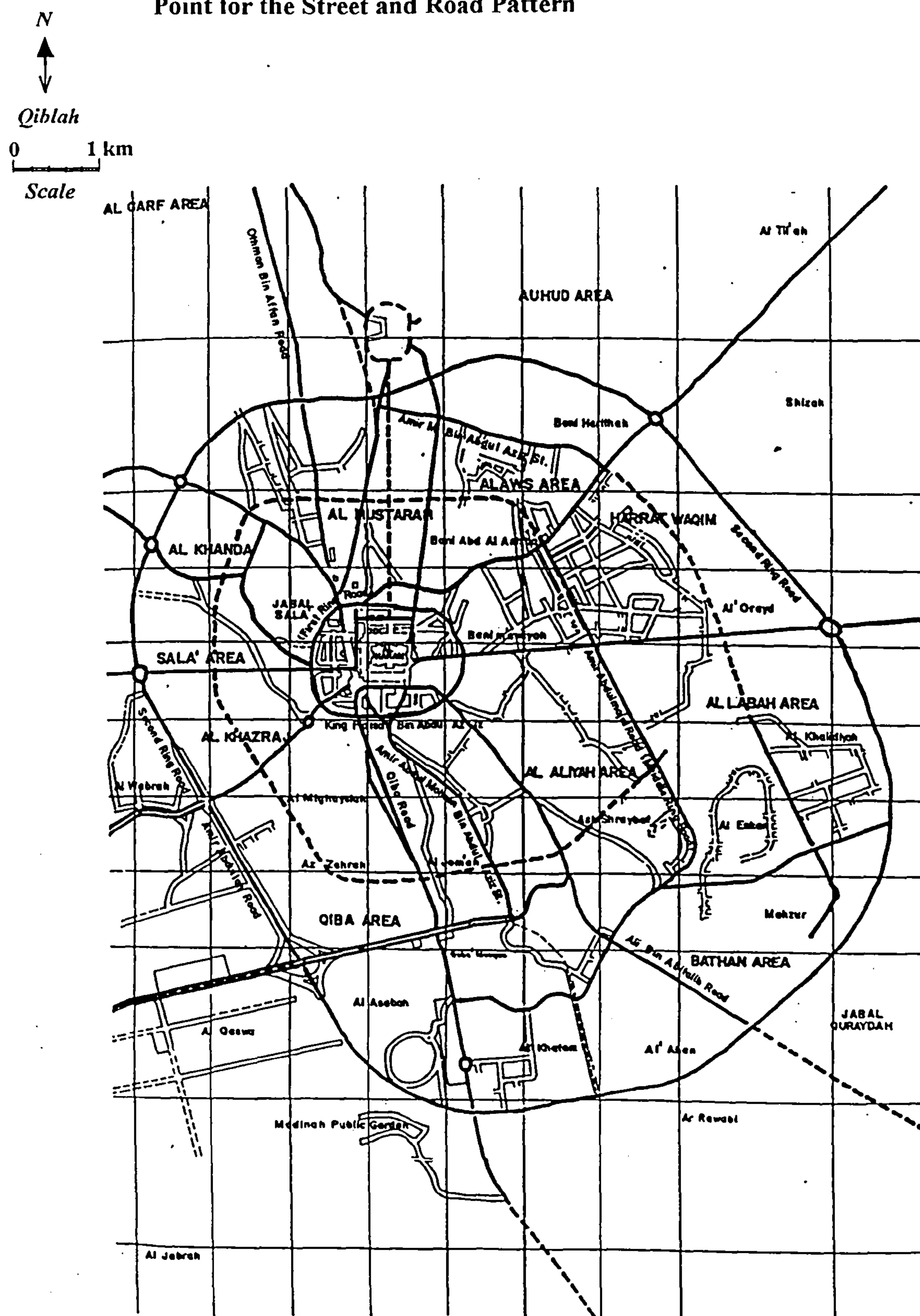
1. King Abdulaziz street.
2. al-Hijrah Street (The Southern Gate Of The City).
3. Khaled Bin al-Waled Street.
4. Abu Baker al-Sadiq Street.
5. al-Salam Street.

These radial streets were linked horizontally by three ring roads:

1. The First Ring Road - Expansion of al-Manakha Channel Project.
2. The Second Ring Road.
3. The Third Ring Road Project.

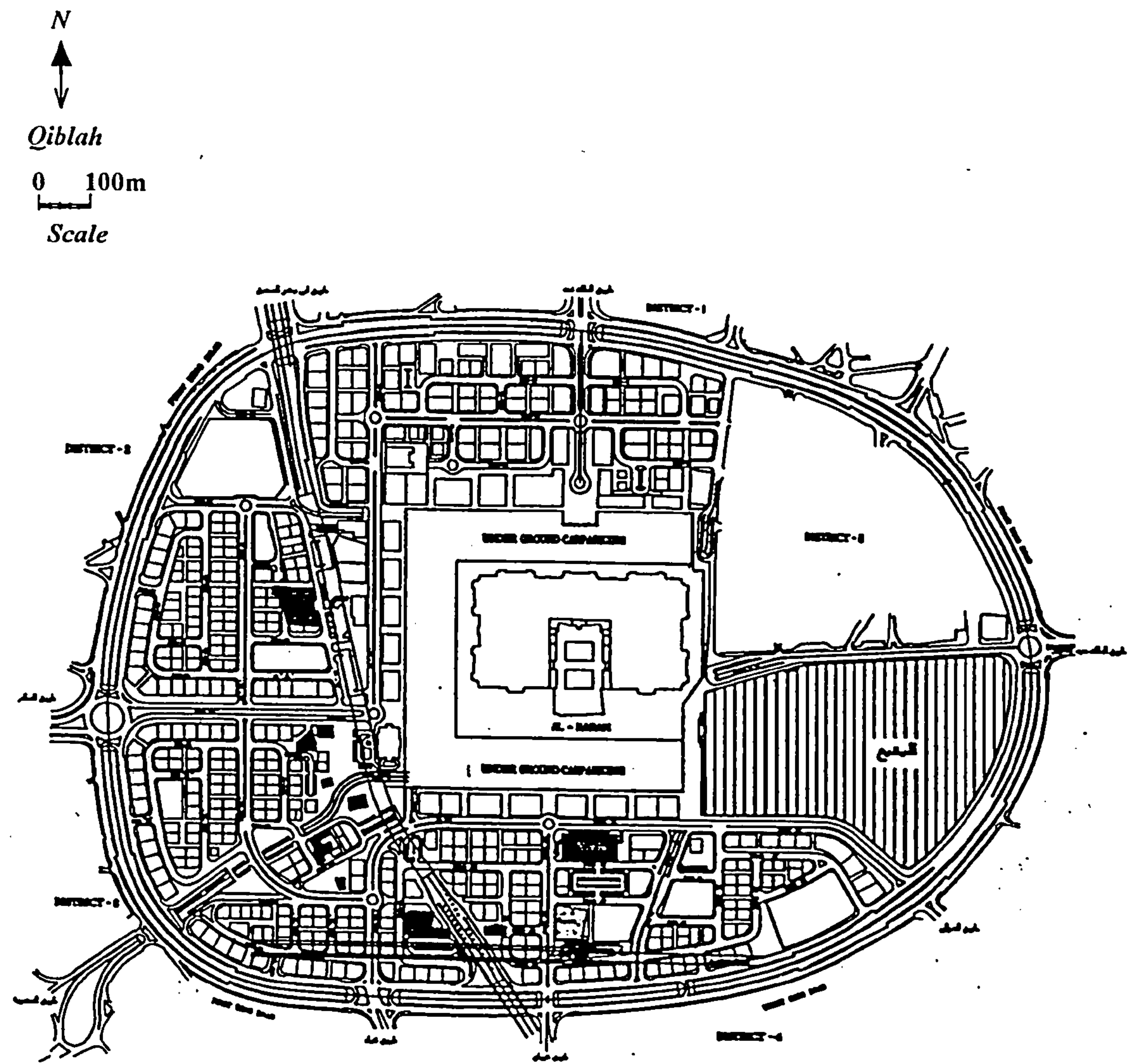
The improvement of the streets also includes those smaller ways within the neighbourhoods by paving them and maintaining the old part. Moreover, there is good effort for numbering and naming of these streets. According to *Amanit al-Madina* report, about 22 new development areas and 20 old neighbourhoods were approved in terms of names which derived from the name of the Prophet, His Companions and His followers.

(Fig 3.6) Map of Al Madina Today: Where Al Haram act as a Focal Point for the Street and Road Pattern



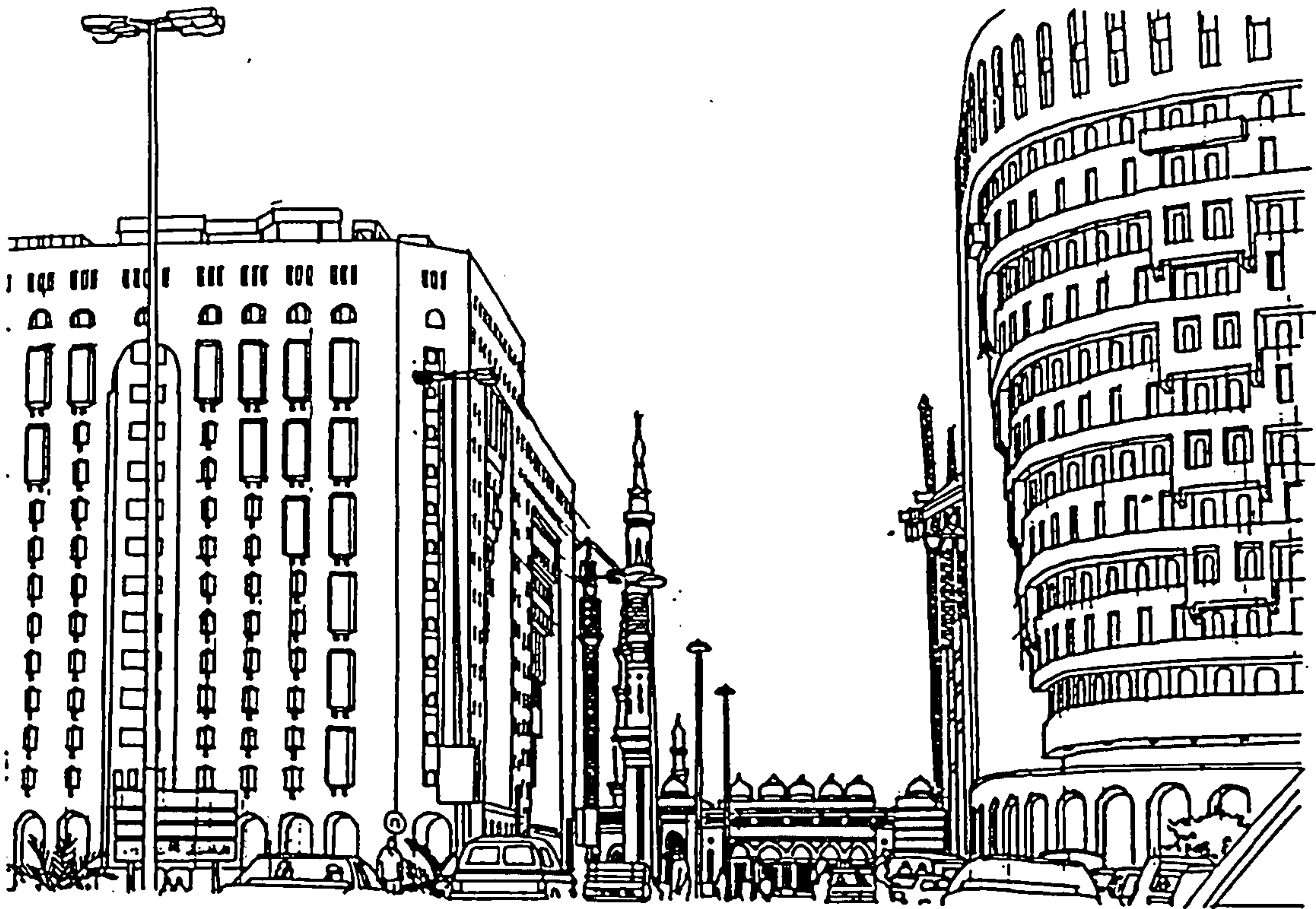
Source : (Adapted) Z. Farsi (Prouduced and Published): Map and Guid of Al Madinah Al Munawwarah, Reused by the Municipality of Al Madina. Po. Box 7114, Jeddah 21462 - Saudi Arabia.

(Fig 3.7) Plan of the New Development within the First Ring Road the Layout Maintained the Important of Al Haram as a core for the Radial Streets

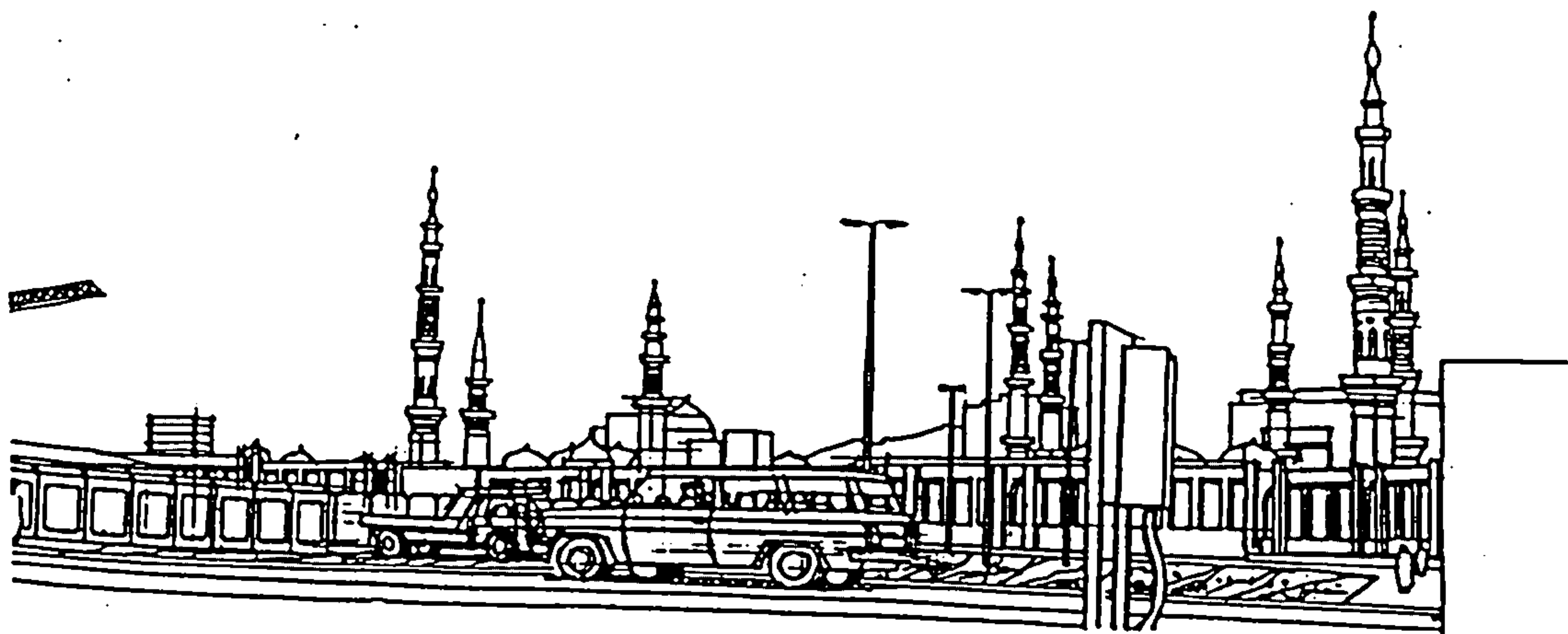


Source : (Adapted from) Abdulghani (1997)., Bevut Al Sahabah, Arabic, (Houses of Companion). P.186.

(Fig 3.8) View Indicating the Approach of Al Haram From the South (King Fahad Street): The New Construction Block the View of Al Haram Except Through the Radial Street.



(Fig 3.9) View Shows the Only Direction (North West) Where Most of Al Haram Could Be Seen Behind of the Cemetery Of Al Baka



Source : Field Work 9th April- 22nd May 1996 AD / 21st Thualqudi 1416 AH- 5th Moharam 1417AH

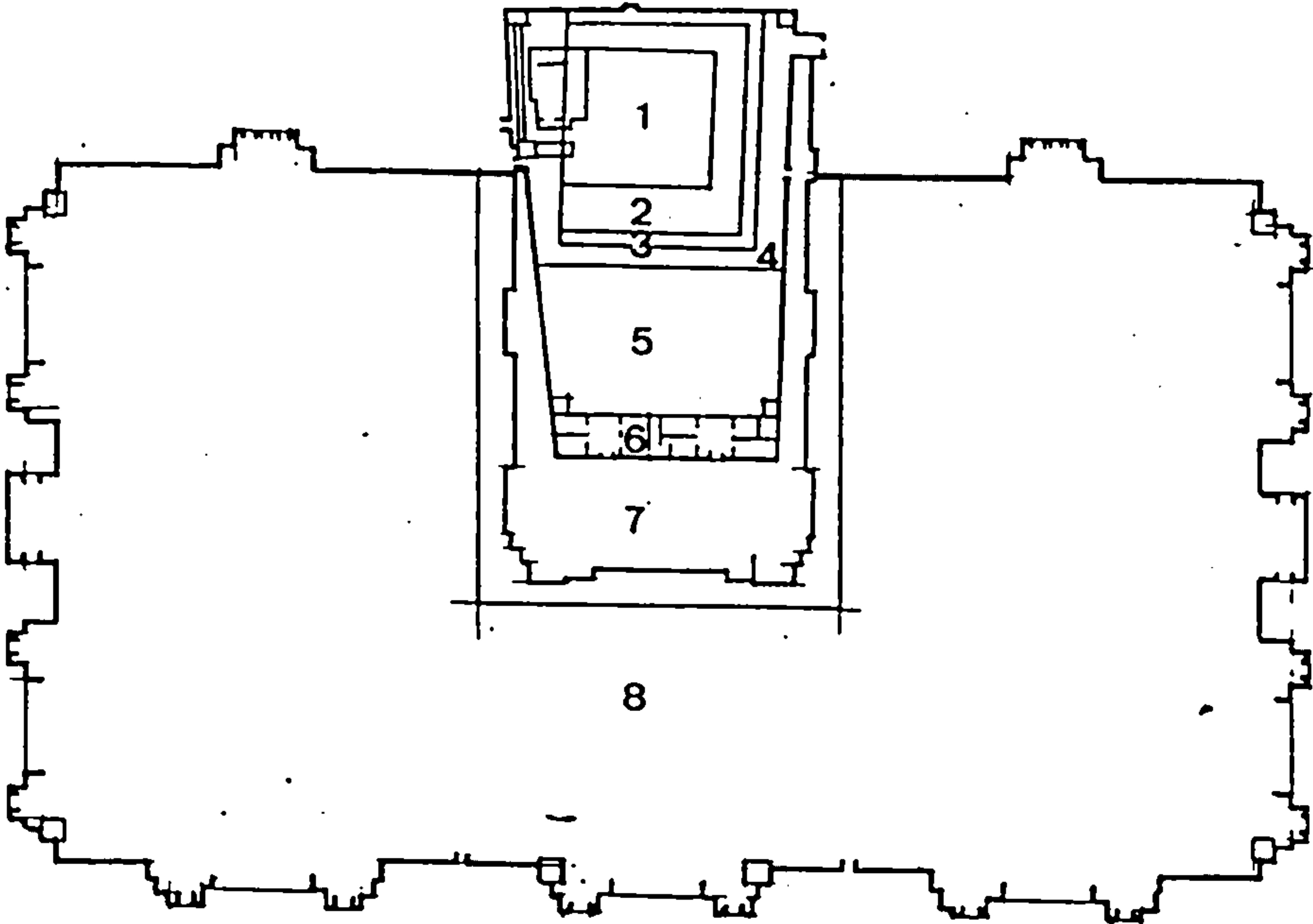
3.4 al-Haram (The Prophet's Mosque) - The extension of the two Holy Mosques by King Fahad Bin Abdulaziz:

In 1983 the Custodian of the Two Holy Mosques, King Fahad Bin Abdulaziz, ordered the construction of the largest ever enlargement. The actual work of this extension commenced on 1st March 1986 (17 Muharam 1406), and finished on 22 of April 1994 AD (11 of Thu al-Quadah 1414 AH). The project adds a new building beside the existing Mosque encircling and joining it in the north, east, and west with an area of 82,000m². The area will accommodate 167,000 worshippers, increasing the capacity of the Mosque to five times more than before. The total capacity of the Mosque after expansion will allow for more than 257,000 worshippers to perform their prayer in a total area of 1,65,500 m². The area around the Haram (2,350,000 m²) was paved by granite which could be used as additional open praying area for more than 450,000 worshippers especially in the pilgrimage season. (Fig 3.10 and Fig 3.11)

The project involved increasing the number of minarets from four to ten. Also the main entrances for the Mosque and the side gates increased to 14 with 6 for the basement. Escalators were used to serve the roof and the parking area. Moreover, potable water system, drainage, sewerage and air-conditioning were designed to meet the number of worshippers. The project also contained a public service complex consisting of an air-conditioning station in an area of 70,000 m² away from al-Haram to facilitate operation and maintenance at the work site and a service tunnel composed of a 7 Km long concrete pipe through which water can be transported to the basement of the Mosque. Moreover, the project has two levels of underground car parking with an area of 390,000 m², which can accommodate 4,444 cars. Also public toilets (2,500 toilets) and ablution facilities (6800 unit) were provided to meet the increasing number of users.⁹

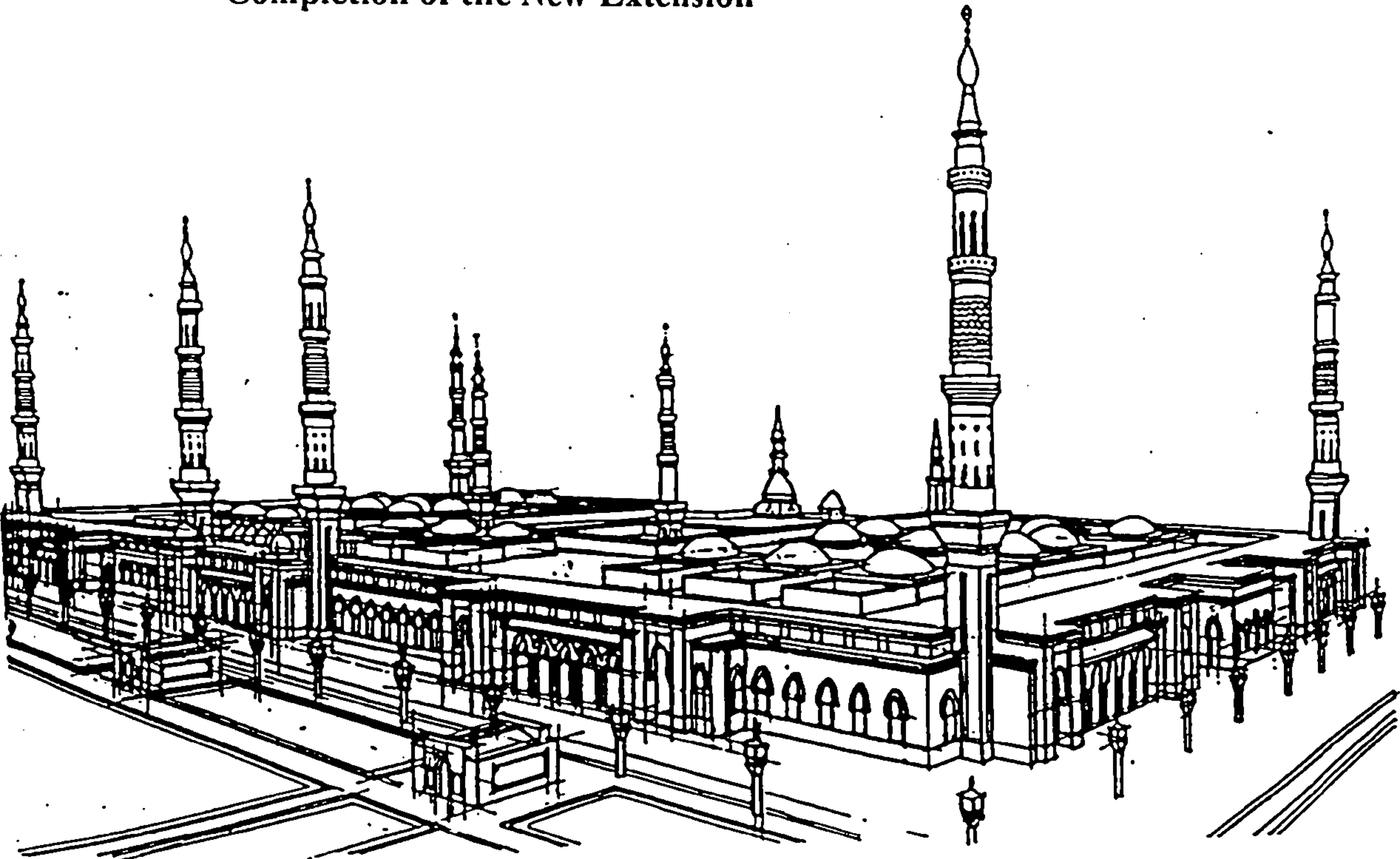
⁹ An-Nwaiser, F. al-Harigi. (1989) The Relationship Between The Prophets' Mosque And Its Physical Environment, Al-Medina, Saudi Arabia. Unpublished Ph.D. Thesis. University Of Edinburgh .p 27.

(Fig 3.10) Al Haram: The New Extension of the Prophet's Mosque Compared With the Previous Development of Its Area



- | | |
|---|---|
| 1. The Area of Al Haram as Constructed by the Prophet (2,475 m ²) / (629 A.D/7AH) | 6. The Extension of Sultan Abdulmajid (1,293 m ²) / (1887-1899 A.D/1265-1277AH) |
| 2. The Extension of Umar (1,1006 m ²) / (639 A.D/17AH) | 7. The Extension of King Abdulaziz (6,024m ²) / (1372 A.D/1952AH) |
| 3. The Extension of Uthman (496 m ²) / (650-651 A.D/29-30AH) | 8. The Extension of King Fahad (82,000 m ²) / (1984-1994 A.D/ 1405-1414 AH) |
| 4. The Extension of Al Walid (2,369 m ²) / (710-713 A.D/88-91AH) | |
| 5. The Extension of Al Mehdi (2,450 m ²) / (783-787 A.D/161-165AH) | |

(Fig 3.11) Al Haram : View of the Contemporary Situation After the Completion of the New Extension



This large project resulted in clearing the oldest part of the town (*al-aghwat* quarter). Also, the demolition extended to the last remains of the traditional *aswak* in the north (*Bab al-Majidi*) which occupied the ground floors of traditional *rwashin* (wooden screens) buildings.

al-Harigi¹⁰ argues that the Mosque is isolated from its surroundings and the integrity of the Holy city is lost. That is the result of the demolition of the historical Quarters and encircling the Mosque and its extension with urban elements, which are incompatible with the spirituality of the building. The area, according to him, is dominated by high - rise hotels and apartment blocks nine to twelve storeys high, concrete towers which replaced the traditional two to four floor stone buildings with magnificent wood lattice facades. Also the traditional scale of passage ways were replaced by wide and straight streets or ring-roads and car parks as a result of adopting western planning concepts which make walking extremely difficult.

The survey that al-Harigi carried out August 23rd 1986, aimed at examining the relationship between the Prophet's Mosque and its physical environment, indicated that the majority of the residents (93.1%) agreed that al-Madina is not the city it was several years ago, and almost half of them think that it was better in the past than today. Moreover, the survey shows that most of the respondents agree that the recent developments in the central area of al-Madina have not contributed much to the spiritual nature of the city, and that high - rise buildings should no longer be allowed to be built in the Haram area. In contrast, buildings should reflect the traditional local architectural character of the city.

3.5 The Central Area

The central area is about 170 Hectare (1,700,000 m²), 50 Hectare (500,000 m²) of it are occupied by the Prophet Mosque, its open Plaza and the old Baka cemetery. The other 120 Hectare (1,200,000 m²) were occupied by the residential and commercial

¹⁰ An-Nwaiser, F. al-Harigi, . Ibid. op.cit.

buildings which were affected by weather erosion and poor maintenance. In addition, the lots were very small. During the last two decades some new buildings were built, yet there was no coherence between them in terms of size, usage and architectural design.

The new residential neighbourhoods on the periphery of the city encouraged a lot of Saudi families to leave the core of the city to live in the new housing areas. This movement actually decreased the maintenance level and the care of the central area buildings. The area became a haphazard environment which got worse during the pilgrimage seasons. Consequently, basic solutions were needed for housing areas of both the residents and pilgrims visiting the Prophet’s Mosque. The area surrounded by the first ring road (King Faysal Road), thus were selected to be re-planned and constructed according to new specifications in order to make sure of both the quality of the building and its adequacy to all needs. The cost of compensation of the old buildings and lands reached 4,813,151,120 SR (£802,191,853) ¹¹ (Table 3.1).

Table 3.1 Comparison Of The Central Area Condition Before And After The New Development .

Aspects	Before The Development	After The Development
Number of lots	3262	570
Ratio of lots size to the total area *	57.9 %	44.6 %
Ratio of streets to the total area	42.1 %	55.4 %
Ratio of concrete buildings to the total number of buildings	56 %	100 %
Ratio of the buildings to the total area	91 %	39 %
Ratio of the pedestrian ways to the total area	9 %	15 %
Ratio of the shaded arcades to the total area	0.0 %	12 %

* Total Residential Area In The Central Area = 1 200 000 M ²

¹¹ al-Amani, Ibid. op.cit. No 12, Sha’ban 1416 AH (Jan. 1996 AD). Pp100-101.

3.5.1 The Objective of the New Development Project:

The objectives of the new developments could be summarised by the following:

1. Improving the surrounding areas of al-Haram by developing the quality of the buildings, and building services, as well as enhancing the roads, pedestrian ways and car parking to facilitate the traffic movement in the central area and provide safe and comfortable means of pedestrian movement.
2. Creating an organised relationship between the new expansion of the Prophet's Mosque and its open plaza with the surrounding areas. In addition, developing land ownership by creating larger well organised lots from the existing small unplanned lots.
3. Providing housing areas, and commercial and general services for both the citizens of al-Madina and pilgrims, near the Prophet's Mosque.
4. Providing replacement of the old residential and commercial centres demolished for the expansion of al-Haram and its open plaza by having an architectural design characterised by a unique pattern suited to the architectural form of al-Haram.
5. Providing for the development and expansion requirements of al-Madina .
6. Providing buildings and market places with an organised Islamic form to give a unique pattern for the central area and at the same time satisfy the residential and commercial requirements ¹²

3.5.2 The Central Area Permanent Services:

In designing the services for the central area, consideration was given to the capacity for future residence and traffic, especially in the pilgrimage season. Accordingly, large concrete channels for services were used for the main infrastructure such as water, sewage, electricity and telephones.

¹²al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.102

Although the first investment in the services channels was very high, it has the following advantages:

1. Flexibility of increasing the capacity of services level.
2. Provision and maintenance of the services does not affect vehicles or pedestrian.
3. Provision and maintenance of services will be within the services channels without damaging the surface of granite pavements.

The length of the services channels is about 50 Km, but only 30 Km (60%) were done at the time of the writer's field work in Apr. 1996 AD (Thou al-Hajjah 1416 AH).¹³

3.5.3 The Central Area Construction Progress

In 5/1995 AD (1/12/1415 AH) the design of 55 projects which will occupy 84 lots was approved, but construction has been started on only 27 projects. The approved projects included seven hotels of five star and first rank which consist of 2,504 rooms, also 10 second rank hotels of 3,929 rooms. The other 38 projects were divided into seven permanent residential or investment buildings (those will be occupied by citizens permanently living in al-Madina) which contain 6,429 rooms. The remaining 31 buildings, which comprise 5,668 rooms will be used by pilgrims (seasonally used buildings).

The approved buildings basements contain 4,030 car parking lots while the first and second floors consist of 3,000 shops. The cost of land where the approved projects will be constructed is about 4,500 million SR (£750 million). Approval of each project design was given by The Applied Committee Of Developing the Central Area of al-Madina al-Munawwarah according to design criteria that ensures the organisation between all the central area's new buildings in terms of the general architectural layout, finishing materials, ventilation and natural light for all buildings elements. Likewise, the

¹³ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.102.

arcade system (*Kanater*) was applied for the first floor and mezzanine level of all building elevations facing streets. Also the safety and fire systems for all the buildings were designed according to the requirement of the fire fighting department to ensure protection of the residents.¹⁴

3.5.4 Tabah Company Projects

The new developments in the central area led to the establishment of the new company of Tabah for investment and construction development. The company's main concern is the investment, construction and maintenance of some of the new projects of the central area. In the following we will describe some of Tabah projects as examples of the new construction of the central area. (Fig 3.12).

3.5.4.1. Tabah Residential And Commercial Centre (The Eastern Tower)

This project occupies 5,800 m² of what is considered one of the most highly valued land in the world as it is the nearest and the most accessible to the Prophet Mosque. The centre, which was the first project of the Tabah company, consists of 360 residential apartments of different sizes. Also it contains 300 commercial stores varying in size and use. Moreover, it contains three levels of basements for services and parking for 480 cars. Islamic customs were considered too, in terms of screening of windows and separating the entrances of residential areas from commercial parts.¹⁵

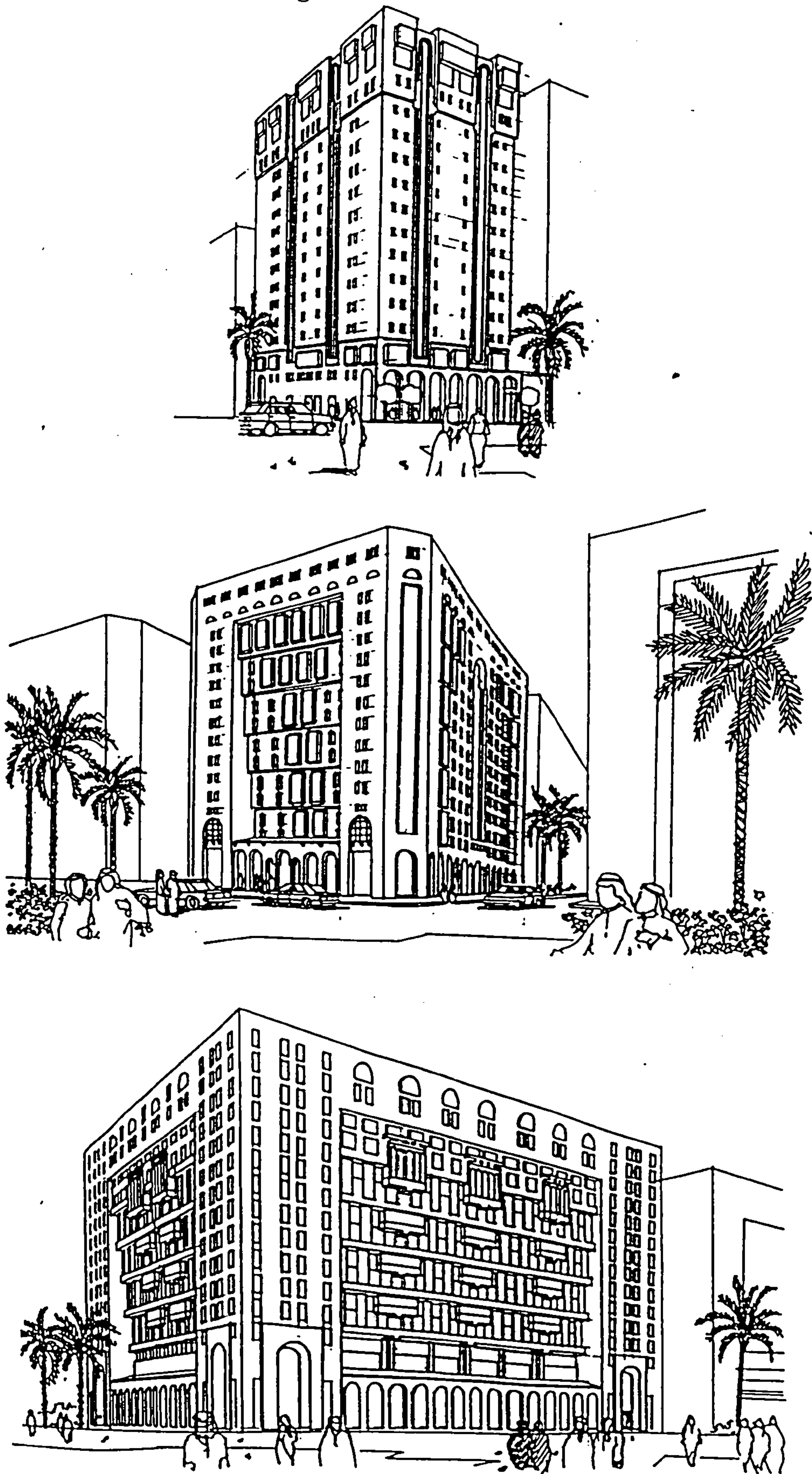
3.5.4.2 Tabah residential and commercial centre (The Western Tower)

In 6/ 1995 AD (22 Muharam 1416 AH) the construction contract was signed by Amir Abdulmajed Bin Abdulaziz (The Tabah Company Honorary Manager) at a cost of

¹⁴al-Amani, Ibid. op.cit, No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.102.

¹⁵al-Amani, Ibid. op.cit, No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.162.

(Fig 3.12) Three Example of the New Building in The Central Area:
'Arcade System and Wooden *Rawashan* Were Applied in
Most of Elevation Design.



208,384,460SR (£34,730,743) with one of the national companies for a construction period of 40 months. The project, which faces the open plaza of al-Haram area occupies 2,937 m², contains buildings of 21 storey, five of them under ground. The commercial activities (169 shops) are located on a mezzanine floor, the ground floor and the first two basements. The other three basement floors are left for car parking services. The remaining 14 storeys from the first floor upwards contain 361 residential apartments.

The centre is provided with all necessary services such as central air conditioning, electricity, internal and external telephone network, fire fighting and smoke detector systems and security television systems. Also, there are six elevators for residents and two lifts and two escalators for the commercial floors. All the service systems will be operated and controlled automatically by a central control station.

In addition, the centre roof contains a helicopter landing centre for emergencies. In the future both Tabah Eastern and Western Towers will be connected through the basements, the first floor and the mezzanine to facilitate movement between the two centres.¹⁶

3.5.4.3 Tabah Company Other Projects:

The Tabah company is investing in three other projects in the city central area which are:

1. al-Aqiq commercial and residential centre with an area of 2,292 m² consisting of 21 floors. The residential part of the centre is 14 storeys comprising 182 apartments of varied size and design. The 77 shops which represent the commercial part of the building occupy two floors. In addition, the four basement floors contain parking for 258 cars and the combined services for air conditioning, control panels and water tanks occupy the top floor.

¹⁶al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.163.

2. Tabah Visitor Palace is a 16 storey project with an area of 1,080 m², two storeys for a specialised commercial centre, where the services and car parking occupy the three basements floors. Also, the project provides some entertainment facilities for the residents who will live in the rest of the building.
3. al-Salam Tabah Hotel which is in the design phase will be located in an area of 1,450 m² on al-Salam Road which leads to the Prophet Mosque.¹⁷

3.6 al-Madina 's Other Mosques:

The government gives much concern to the building and maintenance of other mosques which number about 2,087 in al-Madina Region in 1996 AD (1416 AH). The number of Mosques that were built by the government in the region for the period 1986 to 1996 (1406 to 1416 AH) is 37 at a cost of 27,649,741 SR (about £4,608,290). This figure is in addition to 100 Mosques built by the private philanthropists.

The government also repaired and reconditioned 97 Mosques in the same period at a cost of 13,332,066 SR (about £2,222,011). Moreover, the maintenance and cleaning contracts for 843 of the Mosques in al-Madina Region (49 contracts cost about 65 millions SR (about £10.83 million). Among these Mosques there are three main ones which are newly reconstructed to cope with the capacity of pilgrims who visit them for praying. these Mosques are:¹⁸

1. Quba Mosque¹⁹

¹⁷ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.163.

¹⁸ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.34.

¹⁹ This Mosque is considered as the first one in Islam where the Prophet Mohammed prayed before he reached al-Madina in his *Hijrah* (Immigration) from Makkah. The area of Quba Mosque, after the new construction of King Fahad, reaches 4,518 m² with a capacity of 20,000 worshipers. However, the area before extension was only 1,325 m². The new building which reflects the Islamic architecture, contains 56 small domes (radius = 6 m each), 6 large domes (radius = 12 m each) and 4 Minarets. The main court of the Mosque is covered by a tent with electrical system operating the temperature and shade requirements. The Mosque was provided with some support facilities such as a library, a market area, and housing for the *Imam* (one who guide the worshippers in their praying) and *Muazon* (one who calls for prayers). The total area that the

2. al-Qiblatayn Mosque²⁰
3. al-Meqat Mosque (*Thou al-Hullaafa*)²¹

3.7 The City Shopping Areas

The shopping places in al-Madina changed from the traditional shops in narrow streets (except in the remaining old parts within the first ring road - al-Anabea and al-Sulamani neighbourhood) to many types of contemporary shopping layouts.

3.7.1 Type of Shopping Area:

We can classify the shopping areas in the city in terms of layout into seven main types as follows:

1. Covered shopping centres which are divided into large stores. These shopping centres are mainly provided with central air-conditioning (for example the new al-Madina International Shopping Centre).

mosque and other services occupy is 13,500 m². (source: al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.34.)

²⁰ The importance of this Mosque comes from its historical back ground when the *Qubli* (praying direction) was changed from al-Aqsa Mosque (Jerusalem) to the Holy Mosque in Makkah as an order from Allah to his Prophet who was performing praying with his companions in what later on was called al-Qublaayn Mosque literally meaning "the Mosque with two praying direction". Due to that background, pilgrims usually visit the Mosque as a place commemorating that event. The old Mosque was demolished and reconstructed in the period 1986 - 1988 AD (1406 - 1408 AH). The new Mosque is built in two storeys with an area of 1,190 m² and a capacity of 2,500 worshipers. The Mosque contains two minarets and two large domes. The architectural design of the Mosque considers privacy between the male praying and female praying areas. (source: al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.35.).

²¹ This Mosque is considered one of the *Moaqet* of *Hajj* (pilgrimage) for those who pass to al-Madina before approaching Makkah. Therefore pilgrims should perform *al-Ahram* which is one of the *Hajj* principles by applying the determination of performing the *Hajj* and wearing special clothes (for males). The site of al-Meqat Mosque is about 88, 000 m² where the praying area is 2,970 m² for a maximum of 5, 000 worshipers. The Mosque provides for all the needs of the pilgrims or those who will go for *Umrah* (small pilgrimage). These facilities include toilets and shopping areas. (source: al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.35).

2. Semi- open shopping centres which consist of individual shops with pedestrian corridors in between, with, no access to traffic through the shopping centres. (for example Bilal Market in Qurban neighbourhood).
- 3 Individual shops opening to pedestrian and low traffic streets: These shops are relatively small and mainly located in the old parts of al-Anabea and al-Sulamani mentioned above.
4. Clustered open shopping areas which consist of individuals shops with some access to heavy traffic and parking areas but clustered to form one shopping area within a limited area (for example Uhud shopping area).
- 5 Individual shops along the main streets (30 -100 m wide streets). These shops are mainly on the ground floors, or both ground floor and mezzanine for wide streets. (for example shops along Abu Baker Street).
6. Relatively open shopping area which are mainly shaded. The shops are defined not by partitions, but by furniture and type of goods (for example the central for vegetable market).
7. Completely open and undefined shopping areas, sometimes without any ownership. Therefore, whoever comes first has the right to exhibit his goods (like the traditional *Suq*) (for example the sheep market area).

In addition, the shopping areas could be divided in terms of use into specialist shopping areas (e.g. the Dats *Suq* and the Vegetable Market) and the multi function shopping area where you can find different shop types (e.g., al-Madina International Shopping Centre). Another classification of shopping could be related to the time. Therefore, you can notice that in al-Madina there are either permanent shopping areas (e.g. the above seven types) or the temporary or seasonal shopping activities (e.g. the small Kiosks for gifts or soft drinks around al-Haram during pilgrimage time). 60 kiosks provided food and water in the central area and visiting places during the pilgrimage season of 1996 AD /1416 AH) and also the sweet and candy kiosks during the Eid festival ²².

²² al-Amani, Ibid. op.cit, No 11 Muharram 1416 AH (Jun. 1995 AD). P.9.

3.7.2 The Development Of The City Shopping Area:

Fig 3.1, which shows the number of building permits issued from *Amanat al-Madina* between 1980 - 1995 AD (1400 to 1415 AH), gives us some idea about the increase in both commercial and residential / commercial buildings. The permits for those two types in this period increased by 2,116 and 18,042 respectively as a sign of development of shopping activities. Yet, these permits only indicate the increase in the private sector investment. The government through *Amanat al-Madina* (the municipality) builds government shopping areas which are then rented to individuals at relatively low prices²³. Moreover, *Amanat al-Madina* distributes some lots to citizens of al-Madina who can build their own shops for commercial or industrial activities (Fig 3.13)²⁴. Another indication of the development of commercial activities could be noticed through the number of craft and work permits that *Amanit al-Madina* gave for opening shops and workshops activities, plus the number of health certificate for those who work in the shops (man power)²⁵.

3.7.3 The New Shopping Employment Programme Of *al-Sau'idah*

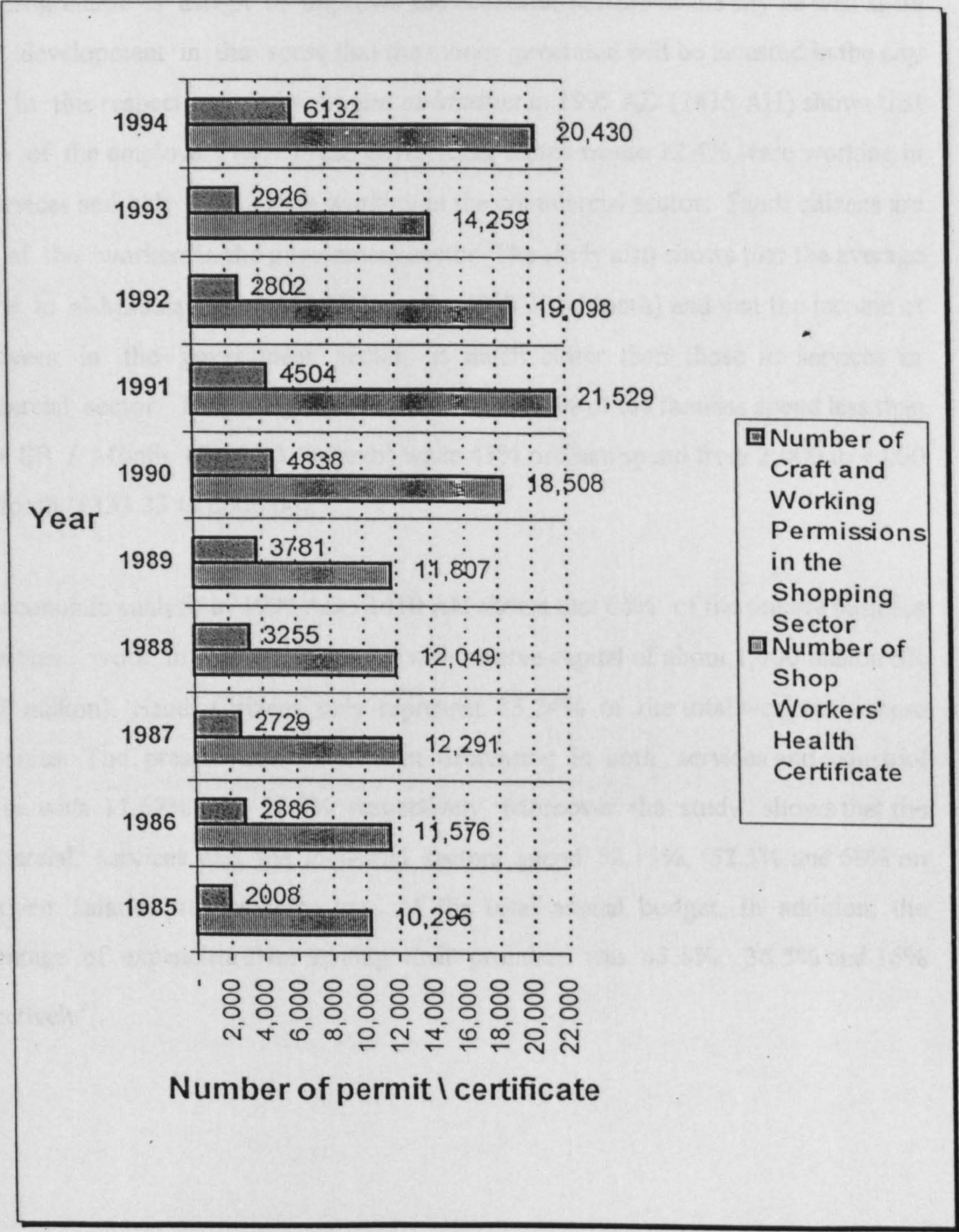
For the health, security, and economy of the city a new employment programme (*al-Sau'idah*) was applied to increase the number of Saudi staff and workers in the

²³ Numbers and progresses, *Amanit al-Madina al-Monuwwarrah*. First Edition, (Arabic) Press of *Amanit al-Madina al-Munawwarah*, Safer 1411 AH (June. 1991 AD). p.44.

²⁴ The industrial and workshop areas were situated within the residential quarters which created a disturbance in terms of noise, smells and pollution. Therefore, in 1993 AD (1413 AH) the municipality was instructed by Prince Abdulmajed to relocate these workshops in industrial complexes away from the residential areas. New areas were developed to accommodate more than 1,800 workshops in three main areas: the Old Tabuk road, Abar Ali and al-Khullal area. Moreover, petrol stations and associated car maintenance could be located in the main streets near the neighbourhoods (40 m² and above). These stations numbered 82 by 1994 AD (1414 AH) Numbers and progresses, *Amanit al-Madina al-Monuwwarrah*, Ibid. *op.cit*, Safer 1411 AH (June. 1991 AD) p.45, al-Amani, Ibid. *op.cit*, No 8 Rajab 1414 AH (Dec. 1993 AD). p.25, and al-Amani, Ibid. *op.cit*, No 7 Rabi II 1414 AH (Sept. 1993 AD). Pp.34-35.

²⁵ Numbers and progresses, *Amanit al-Madina al-Monuwwarrah* Ibid. *op.cit*, Safer 1411 AH (June. 1991 AD). p.43. And Numbers and progresses, *Amanit al-Madina*, Ibid. *op.cit*, 1415 AH (June. 1995 AD). P.78.

(Fig 3.13) Number Of Craft and Working Permissions and Number of Shops Worker Health Certificate (1985-1995AD)



Source : (Adapted) Numbers and progresses, Amanit Al Madina Al Monuwarrah Ibid. op.cit. Safer 1411 AH (June. 1991 AD). p.43. And Numbers and progresses, Amanit Al Madina, Ibid. op.cit. 1415 AH (June. 1995 AD). P.78.

commercial shopping area. The programme which started in 1/6/1996 AD (28/1/1417AH) managed to employ 2,824 Saudis in the shopping activities in just two months²⁶.

This programme is design to improve the economic sectors of the city as well as its whole development in the sense that the money generated will be invested in the city itself. In this respect a study by *Amanit al-Madina* in 1995 AD (1415 AH) shows that 36.1% of the employers were in the government sector where 32.4% were working in the services and only 16.2% were working in the commercial sector. Saudi citizens are 87% of the workers in the government sector. The study also shows that the average income in al-Madina was 3,500 SR/ month (£583.33 / Month) and that the income of employees in the government sector is much better than those in services or commercial sector. The study also indicated that 36% of the families spend less than 2,000 SR / Month (£333.33 / Month) while 41% of them spend from 2,000 to 4,000 SR/Month (£333.33 to £666.66).

The economic analysis in 1990 AD / 1410 AH shows that 66% of the private business companies work in commercial sector with reserve capital of about 1,000 million SR (£167 million). Saudi Citizens only represent 13.24% of the total workers in these companies. The present number is even decreasing in both services and industrial sectors with 11.67% and 12.5% respectively. Moreover the study shows that the commercial, services and the industrial sectors spend 52.15%, 52.5% and 68% on employee salaries respectively out of the total annual budget. In addition, the percentage of expenditure on renting their promises was 43.8%, 36.5% and 16% respectively²⁷.

²⁶ al-Amani, Ibid. op.cit. No 14 Rajab 1417 AH (Nov. 1996 AD). P.38.

²⁷ Numbers and progresses, *Amanit al-Madina*, Ibid. op.cit. 1415 AH (June. 1995 AD). P.90.

3.8 The City Health Facilities:

The Government spends about 8% of the total budget on health facilities which is considered one of the highest levels of spending on this type of services in all the world. The health facilities improved from 1978 to 1990 AD (1398 to 1410 AH) as 4 government hospitals, 4 private hospitals, 5 private clinics and 24 primary health centres were built in this period²⁸. The eight hospitals in al-Madina which about 1,400 beds. These hospitals provide specialist clinics for Maternity, genetics, and Psychiatry. Also, there is a hospital which is located near the pilgrimage city serving mainly the pilgrims²⁹.

The health care developed in the health centres from limited clinic services to protective and medical services for all families (Saudis and non Saudis) within the designated area for each centre. Therefore, the mother care health service level of cover reached 84.1% of the total pregnant women with an average of 3 visits. Moreover the under-five child care service covered 97.8% by the end of 5/1995 AD (1415 AH), whereas, it was only 40 % in 1985 AD (1406 AH). The first clinics which increased to 34 centres in al-Madina in 1996 AD (1416 AH) are involved also in environmental protection, such as the inspection of drinking water tanks, and shop and restaurant workers inspection to avoid the transference of any disease from the worker to the citizens and pilgrims³⁰.

Also there are 5 Red Crescent Centres in the city of al-Madina and 10 others on roads to the city (within al-Madina Area limits). Moreover, there are several private hospitals and clinics which contain about 435 beds. and four seasonal health centres which operate 24 Hours a day during pilgrimage time to provide health facilities for the pilgrims visiting the city each year³¹.

²⁸ Numbers and progresses, *Amanit al-Madina*, Ibid. op.cit, 1415 AH (June. 1995 AD). P.98.

²⁹ al-Amani, Ibid. op.cit, No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.31.

³⁰ al-Amani, Ibid. op.cit, No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.30.

³¹ al-Amani, Ibid. op.cit, No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.69.

3.9 The City Water System

al-Madina is supplied by about 150,000 m³ of water from three main sources. First is the desalination plant in the city of Yanbu (about 220 Km from al-Madina) with a capacity of (80, 000 m³). The first operation was in 1981 AD (28/1/1401 AH) with 25 millions gallons a day which is mixed with the second water resource (Abar al-Mashey Wells)³² with a capacity of (50,000 m³) and the last (20, 000 m³) is provided by Department of Water and Sewage System Wells in the first and second fields.

3.9.1 al-Madina Water Tower and Storage Tanks

al-Madina Water Tower which first operated on 20/1/1987 AD (1/5/1408 AH) is located in Quba Area (about 8 Km from al-Haram). The tower is 90 m above ground level where its maximum capacity is 7,000 Tons. The architectural form of the tower reflects the special characteristic of the Prophet's city since it represents the traditional military helmet. The tower, which helps supply the city with the necessary water cost about 55 million SR (£9.17 million)³³. Also, 28 collection and storage water tanks were constructed for emergency needs especially during pilgrimage sessions. These tanks have a capacity of 200, 000 m³ and the cost was about 43.5 million SR (£7.25 million)³⁴.

3.9.2 Water System Network

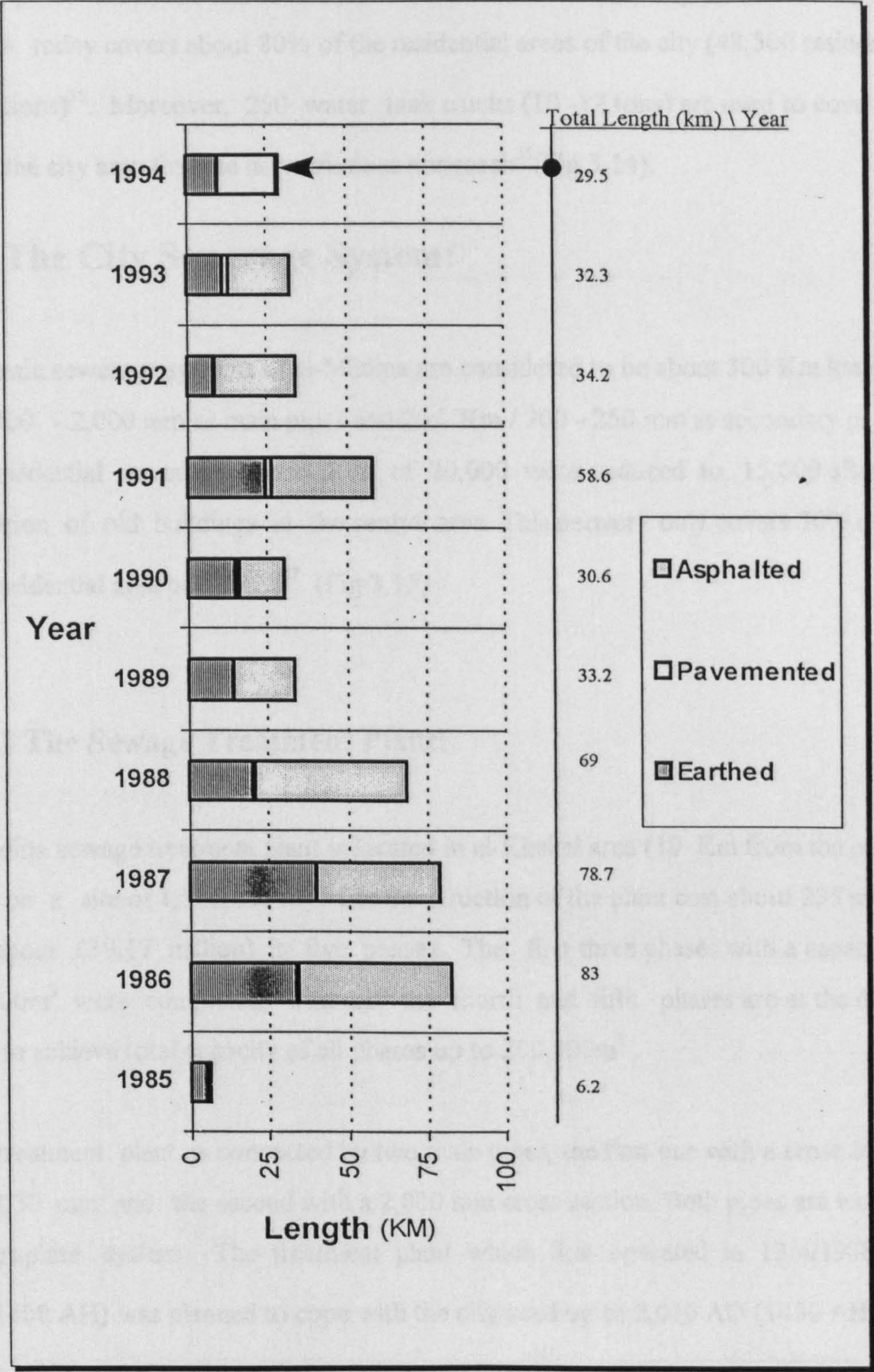
The length of the main and secondary water network of al-Madina was 800 Km in 1991 AD (1411 AH) and increased 900 Km by 6/1995 AD (1/1416 AH). The cross

³² Due to the demand for water in the city, 50 wells were drilled in Abar al-Mashey About 25 Km from al-Madina to supply the city with 13 millions (50,000 m³) of water a day. The operation of the project started in 12/2/1993 AD (21/8/1413 AH). (source: al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.26.

³³ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.25.

³⁴ al-Amani, Ibid. op.cit. No 13 Muharram 1417 AH (May - Jun. 1996 AD). P.34.

(Fig 3.14) Water Excavation Type and Length (1985-1995)



Source : (Adapted) Numbers and progresses, Amanit Al Madina Al Monuwarrah Ibid. op.cit, Safer 1411 AH (June. 1991 AD). pp.126-127. And Numbers and progresses, Amanit Al Madina, Ibid. op.cit, 1415 AH (June. 1995 AD). Pp.144-145.

sections of these pipes range from 100mm to 1600mm. The system was supplied by 50 pumps to transport about 150,000m³ to most of the city parts. Actually, the network today covers about 80% of the residential areas of the city (48,500 residential connections)³⁵. Moreover, 250 water tank trucks (10 -12 tons) are used to cover the rest of the city area that the network does not reach³⁶(Fig 3.14).

3.10 The City Sewerage System:

The main sewerage systems of al-Madina are considered to be about 300 Km long (96 Km/ 300 - 2,000 mm as main pipes and 204 Km / 200 - 250 mm as secondary pipes). The residential sewerage connections of 20,000 were reduced to 15,000 after the demolition of old buildings in the central area. This network only covers 30% of the total residential area of the city³⁷. (Fig 3.15)

3.10.1 The Sewage Treatment Plant:

al-Madina sewage treatment plant is located in al-Khallel area (10 Km from the central area) on a site of 1,500,000 m². The construction of the plant cost about 235 million SR (about £39.17 million) in five phases. The first three phases with a capacity of 120,000m³ were completed, whereas, the fourth and fifth phases are at the design stage to achieve total capacity of all phases up to 200,000m³.

The treatment plant is connected by two main pipes, the first one with a cross section of 1,050 mm and the second with a 2,000 mm cross section. Both pipes are working by graphite system. The treatment plant which first operated in 13/4/1988 AD (1/9/1408 AH) was planned to cope with the city need up to 2,010 AD (1430 AH)³⁸.

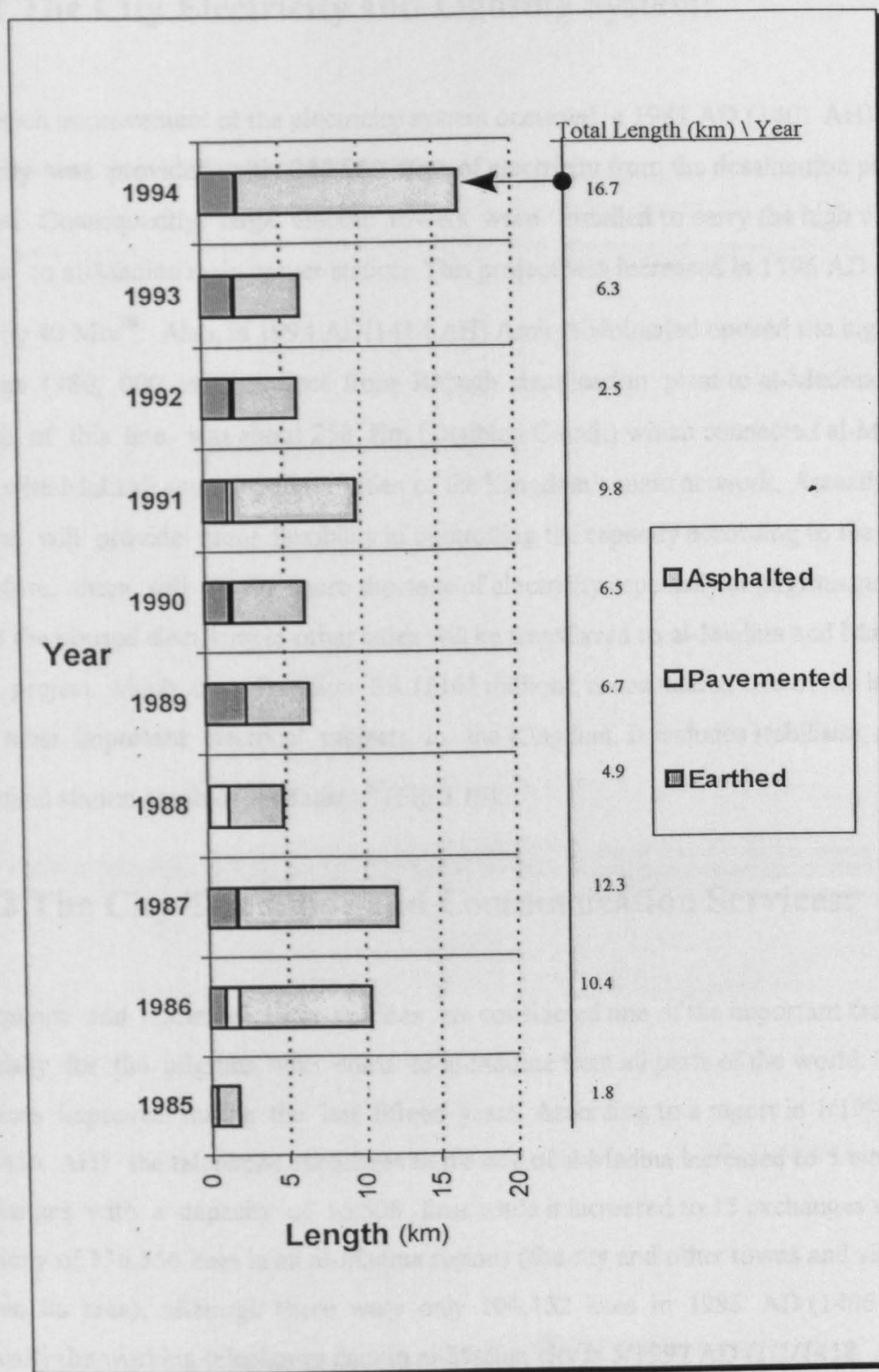
³⁵ al-Amani, Ibid. op.cit. No 11 Muharram 1416 AH (Jun. 1995 AD). P.13.

³⁶ al-Amani, Ibid. op.cit. No 13 Muharram 1417 AH (May - Jun. 1996 AD). Pp. 34-35.

³⁷ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.27.

³⁸ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). Pp.25-28. And al-Amani, Ibid. op.cit. No 13 Muharram 1417 AH (May - Jun. 1996 AD). P.35.)

(Fig 3.15) Sewage Excavation Type and Length (1985-1994 AD)



Source : (Adapted) Numbers and progresses, Amanit Al Madina Al Monuwarrah Ibid. *op.cit*, Safer 1411 AH (June. 1991 AD). pp.126-127. And Numbers and progresses, Amanit Al Madina, Ibid. *op.cit*, 1415 AH (June. 1995 AD). Pp.144-145.

3.11 The City Electricity and Lighting System:

The main improvement of the electricity system occurred in 1981 AD (1401 AH) when the city was provided with 250,000 Kw of electricity from the desalination plant in Yanbu. Consequently, large electric towers were installed to carry the high voltage cables to al-Madina main power station. This project was increased in 1996 AD (1416 AH) by 40 Mw³⁹. Also, in 1994 AD (1414 AH) Amir Abdulmajed opened the high voltage (380, 000 volt) project from Rapegh desalination plant to al-Madina. The length of this line was about 258 Km (Doubled Circuit) which connected al-Madina city with Makkah and with all the cities of the Kingdom's main network. Actually, this system will provide more flexibility in controlling the capacity according to the need, therefore, there will be no more shortage of electricity especially at pilgrimage time, since the unused electricity in other cities will be transferred to al-Madina and Makkah. This project which cost 1 billion SR (£167 million), is considered one of the largest and most important electrical projects in the Kingdom. It includes stabilising a new electrical station south of al-Madina⁴⁰ (Fig 3.16).

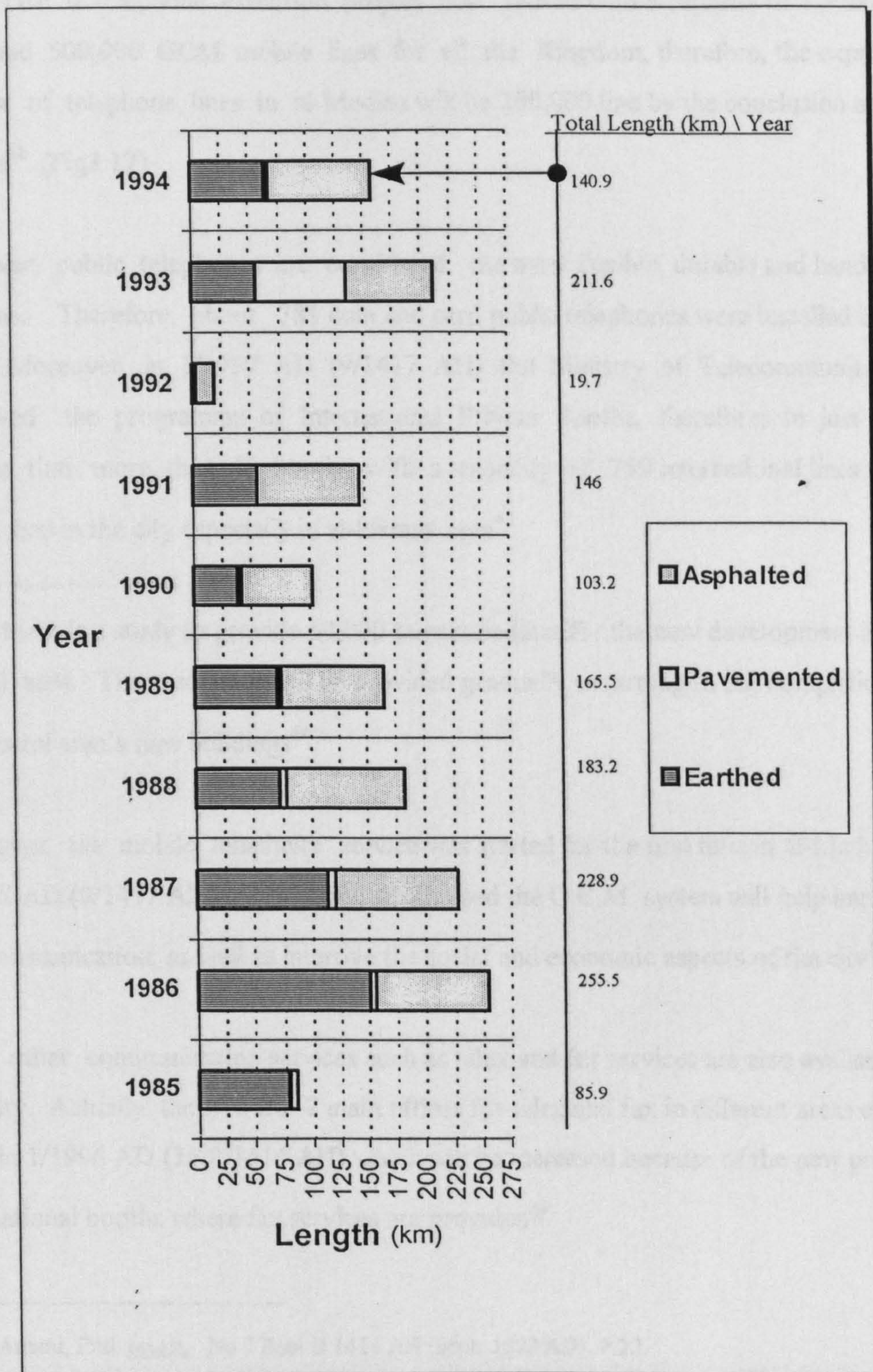
3.12 The City Telephone and Communication Services:

Telephone and communication services are considered one of the important facilities specially for the pilgrims who come to al-Madina from all parts of the world. These services improved during the last fifteen years. According to a report in 1/1996 AD (8/1416 AH) the telephone exchanges in the city of al-Madina increased to 5 working exchanges with a capacity of 95,508 lines while it increased to 15 exchanges with a capacity of 136,356 lines in all al-Madina regions (the city and other towns and villages within its area), although there were only 104,152 lines in 1986 AD (1406 AH). Actually the working telephones lines in al-Madina city in 5/1997 AD (1/1418

³⁹Dr. Abdul baset Bider The comprehensive houstory of al-Madina al-Munuawarrah Vol. No 3, first edition 1414 AH, 1993 AD. al-Madina P. O. Box 3662, pp. 260-262.

⁴⁰al-Amani, Ibid. op.cit. No 7 Rabi II 1414 AH (Sept. 1993 AD). P.11.

(Fig 3.16) Electricity Excavation Type and Length (1985-1994 AD)



Source : (Adapted) Numbers and progresses, Amanit Al Madina Al Monuwarrah Ibid. *op.cit.*, Safer 1411 AH (June. 1991 AD). pp.126-127. And Numbers and progresses, Amanit Al Madina, Ibid. *op.cit.*, 1415 AH (June. 1995 AD). Pp.144-145.

AH) numbered 96,750 lines ⁴¹. Moreover, in 8/1994 AD (25/3/1415 AH) the seven years TEP 6 telephone extension project was started with a capacity of 1.5 million lines and 500,000 GCM mobile lines for all the Kingdom, therefore, the expected number of telephone lines in al-Madina will be 250,000 line by the conclusion of the project⁴². (Fig3.17)

However, public telephones are considered the most flexible, durable and handy for pilgrims. Therefore, about 381 coin and card public telephones were installed in the city. Moreover, in 1/1997 AD (9/1417 AH) the Ministry of Telecommunication approved the programme of International Private Booths, therefore, in just four months time more than 45 booths with a capacity of 759 international lines were established in the city especially in al-Haram area⁴³.

Also, there is a study to provide 60,000 telephone lines for the new development in the central area. These services will be provided gradually according to the completion of the central area's new buildings⁴⁴.

Moreover, the mobile telephone service was started for the first time in al-Madina in 1/1997 AD (9/1417 AH). This facility which used the G.C.M. system will help improve the communication, as well as improve the social and economic aspects of the city⁴⁵.

Also, other communication services such as telex and fax services are also available in the city. Actually there were 7 main offices for telex and fax in different areas of the city in 1/1996 AD (15/8/1416 AH) which will be increased because of the new private international booths where fax services are provided⁴⁶.

⁴¹ al-Amani, Ibid. op.cit. No 7 Rabi II 1414 AH (Sept. 1993 AD). P.22.

⁴² al-Amani, Ibid. op.cit. No 7 Rabi II 1414 AH (Sept. 1993 AD). P.21.

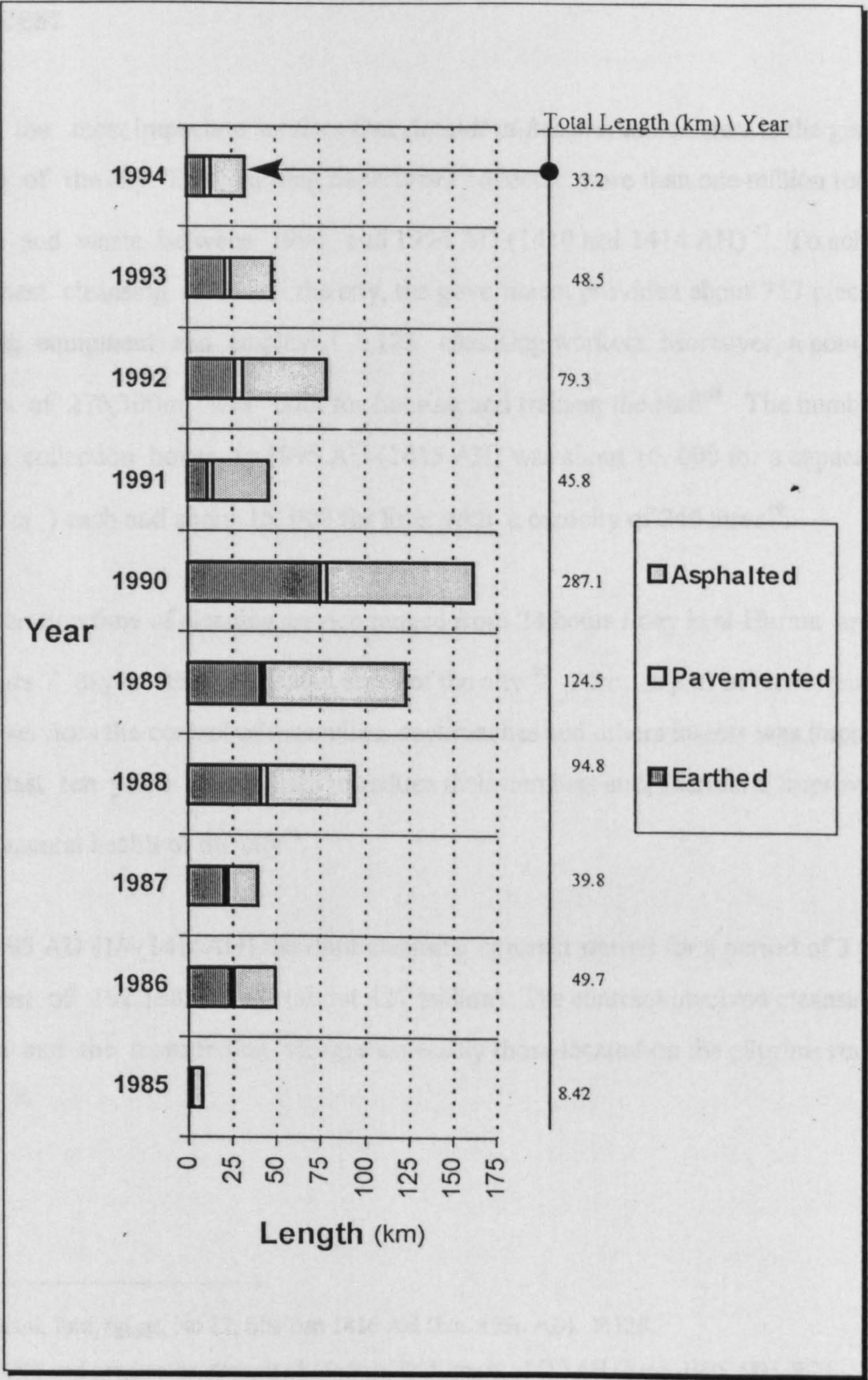
⁴³ al-Amani, Ibid. op.cit. No 7 Rabi II 1414 AH (Sept. 1993 AD). P.8.

⁴⁴ al-Amani, Ibid. op.cit. No 7 Rabi II 1414 AH (Sept. 1993 AD). P.22.

⁴⁵ al-Amani, Ibid. op.cit. No 7 Rabi II 1414 AH (Sept. 1993 AD). P.20.

⁴⁶ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.88.

(Fig 3.17) Telephone Excavation Type and Length (1985-1994 AD)



Source : (Adapted) Numbers and progresses, Amanit Al Madina Al Monuwarrah Ibid. op.cit, Safer 1411 AH (June. 1991 AD). pp.126-127. And Numbers and progresses, Amanit Al Madina, Ibid. op.cit, 1415 AH (June. 1995 AD). Pp.144-145.

3.13 The City's Cleanness and Environmental Health Services:

One of the most important services that *Amanit al-Madina* administers is the general cleaning of the city. The cleansing department collected more than one million tons of garbage and waste between 1990 and 1994 AD (1410 and 1414 AH)⁴⁷. To achieve the highest cleansing level of the city, the government provided about 717 pieces of cleansing equipment and employed 3,123 cleansing workers. Moreover, a complete complex of 276,300m² was built for housing and training the staff⁴⁸. The number of garbage collection boxes in 1995 AD (1415 AH) was about 16,000 for a capacity of (1.1-16 m³) each and about 15,000 for litter with a capacity of 240 litres⁴⁹.

The operation time of cleaning service ranged from 24 hours / day in al-Haram area to 16 Hours / day in other residential areas of the city⁵⁰. Also, as part of environmental health services the control of mesquites, cockroaches and others insects was improved in the last ten years which help to reduce their numbers and, therefore, improve the environmental health of the city⁵¹.

In 9/1995 AD (1/4/1416AH) the third cleansing contract started for a period of 3 years at a cost of 162,188,015 SR (about £27 million). The contract involved cleansing al-Madina and the surrounding villages especially those located on the pilgrims routes to the city⁵².

⁴⁷ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.126.

⁴⁸ Numbers and progresses, *Amanit al-Madina*, Ibid. op.cit. 1415 AH (June. 1995 AD). P.71.

⁴⁹ Numbers and progresses, *Amanit al-Madina*, Ibid. op.cit. 1415 AH (June. 1995 AD). P.72.

⁵⁰ Numbers and progresses, *Amanit al-Madina al-Munawwarah* Ibid. op.cit. Safer 1411 AH (June. 1991 AD). p.99.

⁵¹ Numbers and progresses, *Amanit al-Madina*, Ibid. op.cit. 1415 AH (June. 1995 AD). P.75.

⁵² al-Amani, Ibid. op.cit. No 13 Muharram 1417 AH (May - Jun. 1996 AD). P.50.

3.14 The City Landscaping:

In al-Madina today there are 46 parks in the residential areas of its neighbourhoods with a total area of 975,889 m². Fig 3.18 and Fig 3.19, show the development of green area from 1989 to 1995 AD (1409 to 1415 AH).⁵³

Actually, 73% of the parks are less than one hectares (10,000 m²) (but they only represent 11% of the total parks area). On the other hand, parks each with an area of more than 5 hectares (50,000 m²) represent 9% of the total city parks (but represent 72% of the total parks' area). Among the largest parks of the city are al-Nakhel Park (36 hectares), al-Akul Recreational park (10 hectares), and al-Hajrah Park (7.6 Hectares)⁵⁴. The Central Park has been established recently as the most modern and largest landscaping element in the city. The first Phase of the Central Park, which was completed in 4/1994 AD (19/11/1414 AH) is about 600,000 m². Moreover, it includes 258 family shaded seating areas and 8 children's play areas. The site of the general recreational park (Central Park) is located 5 Km south of the city central area at the second ring road in Quba Area.

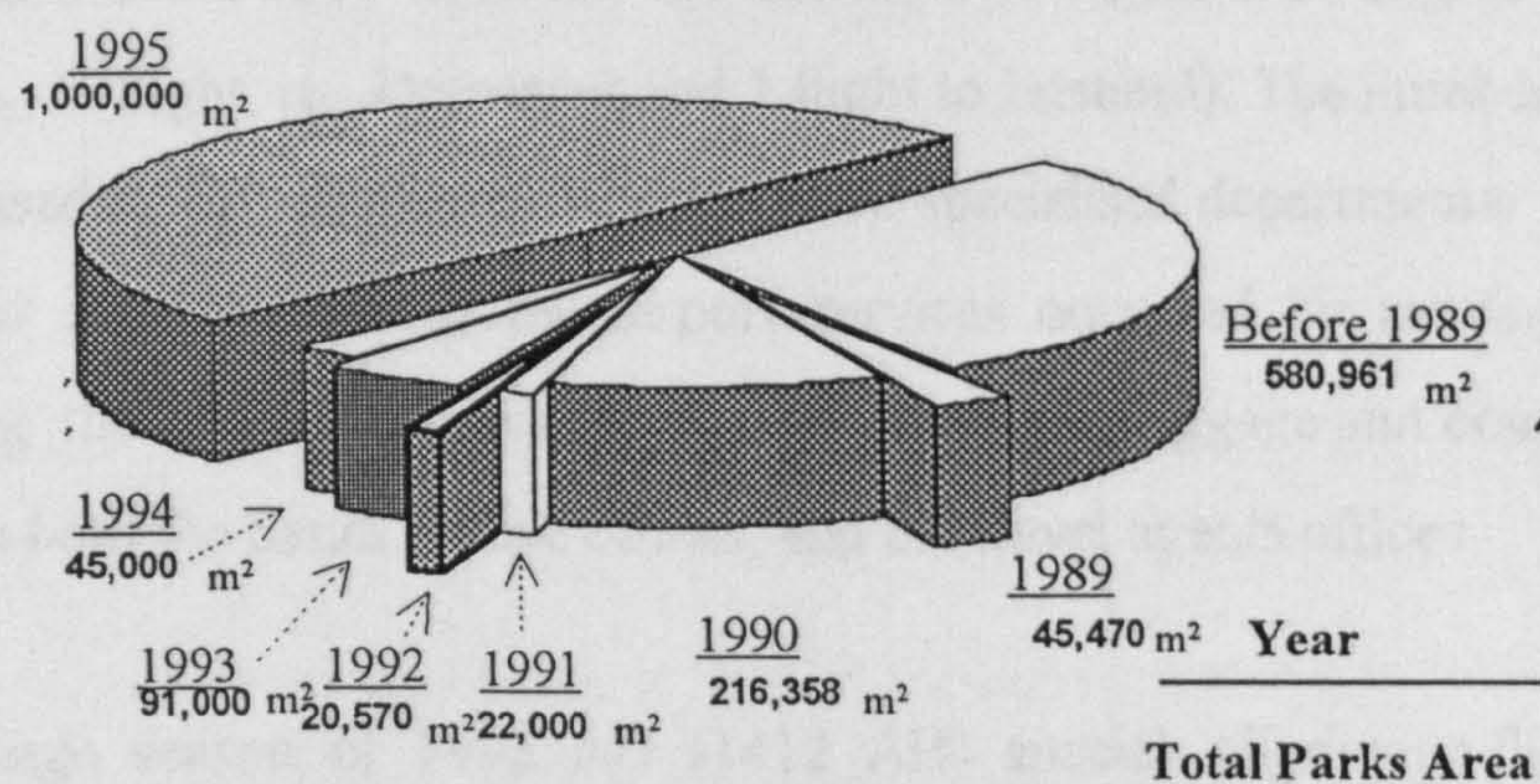
Selection of the site was affected by the future growth direction of the city and its topography. The general master plan of al-Madina recommended that the urban growth will be toward the east and west side while the south side is dominated by agricultural areas. On the other hand the southern side where the Central Park is located is characterised by underground water resources which should be preserved. The Park is connected to al-Haram central area by Quba road, therefore, the main and general activities of the city in the north will be well linked by recreational activities in the south. Also, the second ring road is considered as a horizontal access to the Park for all residential neighbourhoods of the city, which will help its use by all residents of al-Madina.⁵⁵

⁵³ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.129.

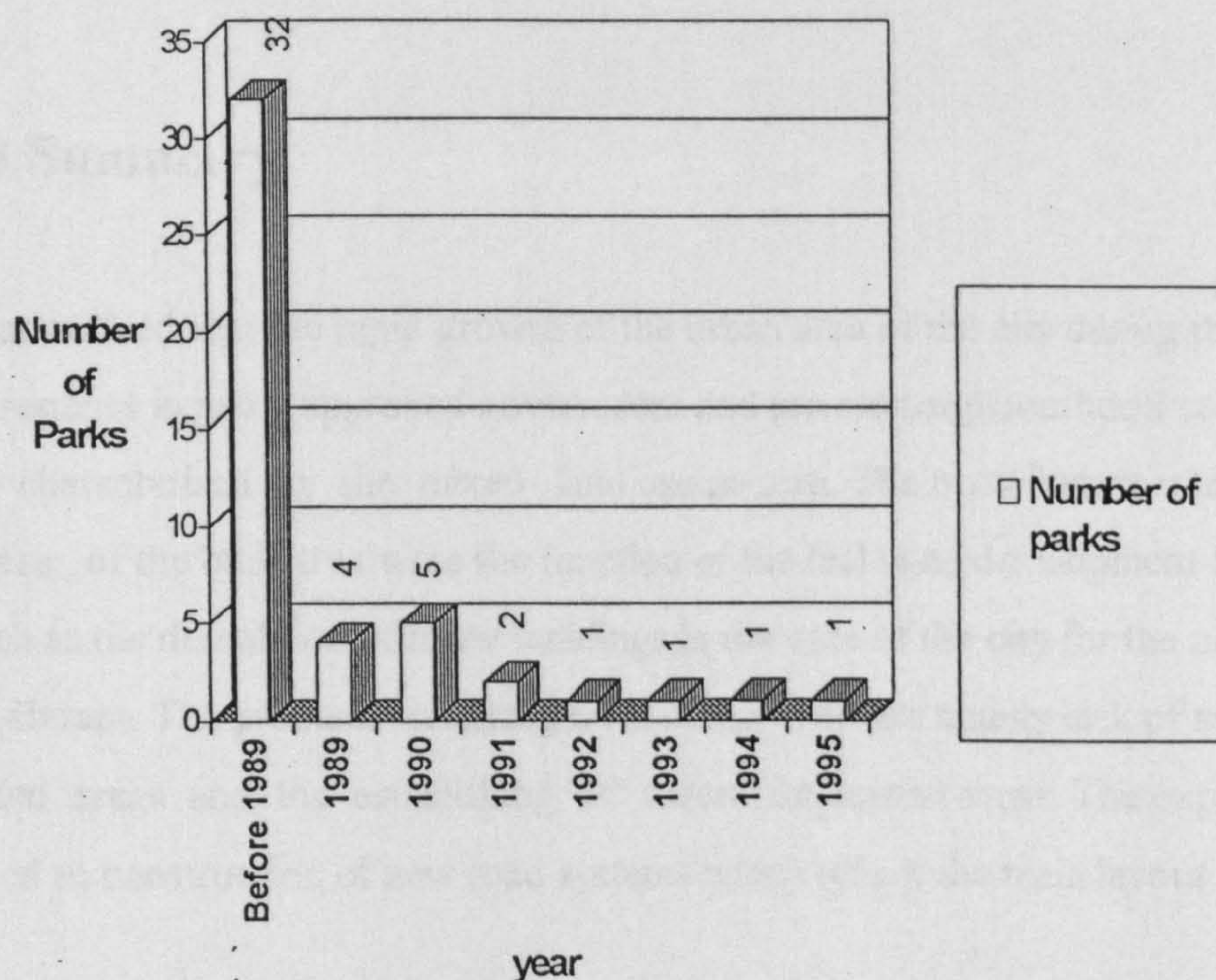
⁵⁴ al-Amani, Ibid. op.cit. No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.114.

⁵⁵ Numbers and progresses, *Amanit al-Madina*, Ibid. op.cit. 1415 AH (June. 1995 AD). Pp.134-136.

(Fig 3.18) Total Area of Parks in Al Madina (1989-1995 AD)



(Fig 3.19) Number of Parks Newly Established in Al Madina (1985-1995 AD)



Source : (Adapted) Al Amani, (The Municipality of Al Madina Magazine). Eng. Al Housien Abdulaziz (General Supervisor), Falah Al Juhany (Eds.). No 12 Sha'ban 1416 AH (Jan. 1996 AD). (Arabic) Printed in Al Madina est. (Dar Al Allm) Press, Jeddah, Kingdom of Saudi Arabia, P.O Box 4797. P129.

3.15 Saudia Airline and Amir Mohammed Bin Abdulaziz Airport in al-Madina

The city airport first operated in 1947 AD when there were only 4 flights a week to al-Madina . At that time the Saudi Airline staff was just 4 employees and the aeroplane types were the Dakota, Bristol and DC9. By 1/1996 AD (8/1416 AH) number of domestic flights became 120 / week and the international flights are 5 flights / week (3 flight to Cairo, 1 flight to Damascus and 1 flight to Istanbul). The number of Saudi staff also increased to 440 employees working in 16 specialised departments.

In 1991 further improvement to the airport services occurred by moving to new terminals, using the mechanical system for shipment of baggage and computerised ticket issuing in both the Saudi Airline offices, and the travel agents offices.

By the pilgrimage season of 1992 AD (1412 AH) special pilgrimage flights were received by the city airport at an average of 36 to 40 Saudi airline domestic pilgrimage flights each pilgrimage season, and from 130 to 140 Saudi airline international pilgrimage flights. Also the airport started to receive other international pilgrimage flights from other airlines such as Gulf Air, Kuwait and Oman Airline⁵⁶.

3.18 Summary

It was noticed that the rapid growth of the urban area of the city during the last fifteen year resulted in many approved government and private neighbourhood schemes which were characterised by the mixed land use pattern. The main factors which led to the increase of the built area were the function of the real state development fund (RSDF) as well as the demolition of many buildings in the core of the city for the new extension of al-Haram. The problems resulting from this growth are mainly lack of services in the planned areas and the establishing of several unplanned areas. The expansion of the city led to construction of new road systems which reflect the main layout of the city in

⁵⁶ al-Amani, Ibid. op.cit., No 12, Sha'ban 1416 AH (Jan. 1996 AD). P.84.

two main networks, first a radial street starting from al-Haram and penetrating to all parts of the city and, secondly, three horizontal link ring roads. The main development of the city, which was finished in April 1994, was the largest ever enlargement of al-Haram which increased its capacity five times over. This project resulted in demolition of the remaining traditional area of the city which is characterised by the old *aswak* and traditional *rawashin* buildings. The other main development in the city was the demolition and re-planning of the area within the first ring road which surrounds the Prophet's Mosque. The main objectives of the new development were to improve the area surrounding al-Haram in terms of quality and quantity of housing, commercial and general services for both the citizens and pilgrims of the city.

Although the city services and facilities improved during the last ten years, there is still a shortage during the pilgrimage seasons when the city's population increases. The new extension of al-Haram will lead to further increase in the number of pilgrims. Therefore, there is a need for considering this increase in the future development of the city.

CHAPTER 4 Islamic Principles As Determinant of Degree of Satisfaction With The Built Environment

4.1 Introduction:

A study of the factors that affect the behaviour of any person or group is essential to understanding their life requirements and the satisfactory environment that is expected. As architects, planners, landscapers or any designers, we should investigate the factors that affect clients socially, economically and physically before we start in the first phase of the design process. It is a basic principle of this research that, in any Islamic community, the governing factors for life are Islamic principles. Therefore, in order to have a successful and satisfactory design for any Muslim, we are required to follow Islamic principles in our design.

This chapter contains a review of the traditional Islamic built environment, through investigation of its characteristics, the unity and diversity among its parts, and the differences between the traditional and contemporary Islamic built environments. Then, we will examine Islamic principles as the elements which form the traditional cities' components and examine the validity of those principles in the present and future design of our built environment. Finally the chapter will discuss how Islamic principles affect the degree of satisfaction with the Islamic built environment. It will start with clarifying the source of those principles, then a systemic analysis of some of the Qur'anic verses and prophetic Hadith concerned with architecture, planning and landscaping aspects in the three levels of the built environment, which are the accommodation, the neighbourhood and the city. The discussion will refer to the inferred Islamic principles of specific elements for satisfaction and dissatisfaction that could be understood from each one.

4.2 Analytical Review of Traditional Islamic Built Environment

4.2.1 Toward a Definition of the Islamic Built Environment

If we were to try to give meaning to an Islamic built environment we would say that it is the built environment which fulfils any Muslim need.

Bokhari A.¹ defines the Islamic city not in a physical sense but in a purely cultural and social context. For specific times and for specific peoples, Muslim society has been influenced by Shariah law and Islamic principles and values.”.

Some researchers tend to call the Islamic built environment “the Arab built environment”. Although there is a strong relationship between the two terminologies because the original language of Islam is Arabic, the author of this study believes that it is more accurate to call the built environment which started after the emigration of the Prophet Mohammed to al-Madina an Islamic built environment once it began to be constructed according to the Islamic values. Mostafa ² argues that, although this Islamic architecture originated from ancient civilisational ties, the Islamic law (Shariah) derived from the Holy Qur’an and Sunnah and soon inspired Islamic architecture’s own identity. Unwin ³ differentiated between “*Arab*” elements and “*Islamic*” elements in the built environment of the United

¹ Bokhari, Abdulla Yahia (1981). “On The Identity Of The Arab-Islamic City, Past And Present *The Arab City*. Ismail Serageldin And Samir El-Sadek (Eds.) Proceedings Of A Symposium, Medina, Saudi Arabia, Pp. 78-83

² Mostafa, S. L. “The Cairene Sabil; Form And Meaning .” In “*The Islamic Methodology For The Architectural And Urban Design* “ . The 4th Seminar Of The Organisation Of Islamic Capitals And Cities “ OICC” 22 APRIL 1991 AD. S. Koshak, Abdel Kader (Gen. Supervisor) , Pp. 87-117.

³ P.T.H. Unwin (1981) “The Contemporary City I The United Arab Emirates” In *The Arab City*. Ismail Serageldin And Samir El-Sadek (Eds.) Proceedings Of A Symposium, Medina, Saudi Arabia, Pp. 120-130.

Arab Emirates. He says, Arab refers to factors deriving from the Arabian peninsula, Islamic includes factors from cultures of other parts of the Islamic world.

al-Najjar⁴ discussed the Islamic connection between life on earth and the after-life, how they defined man's relationship with himself, with his creator and his society. He emphasised that the establishment of civilisation in the Arab world began with Islam, Islamic architecture according to him has its own special appearance, type and elements. It has in simplicity, humanity, privacy, and functional-social relationships, [especially decoration which was unknown in the early years of Islam] many elements which have changed.

4.2.2 Characteristics of the Islamic Built Environment

al-Angary⁵ examines the architectural and urban design in the Islamic city. He argues that the mosque, the governor's headquarters, Eid prayers, public baths, markets, water supply and drainage networks are all characteristics of the Islamic city. These characteristics correlate to the ideological roots and civilised elements which help develop the Islamic way of life.

al-Sayebi⁶ also found the mosque to be essential in a Muslim city's foundation and development. The dense and narrow street network of the Arab city and lack of open spaces and vegetation indicates that the Muslim's care and interest in his house outweighs the general layout of the city.

⁴ al-Najjar, S. "The Application Of Islamic Thought In Architecture In Jordan. "The Islamic City Cultural Centre, The King Abdullah Bin al-Hussein Mosque " In *"The Islamic Methodology For The Architectural And Urban Design "*. The 4th Seminar Of The Organisation Of Islamic Capitals And Cities " OICC" 22 APRIL 1991 AD. S. Koshak, Abdel Kader (Gen. Supervisor) Pp 61-70.

⁵ al-angary (1991), Ibid. op. Cit, Pp 71-76.

4.2.3 Unity and Diversity of the Islamic Built Environment

El-Refa'y⁷ upon reviewing Islamic architecture, shows that, in spite of long distances between parts of the Islamic world, Islamic cities were always formerly marked by the unity of character and development caused by the unity of creed, the unity of philosophy and thought, and the unity of ways of looking at life.

al-Angary⁸ believes that the characteristics of most Islamic cities are similar. There are small differences but they do not depart from the general framework of the Islamic city.

Sagwani⁹ argues that there is a common Islamic spirit in the architectural formations and decorative styles in different parts of the Muslim world. Differences occur in details only because of environmental conditions.

al-Anzi¹⁰ discusses architectural diversity caused by time and place and unity as a result of following of the Islamic way of life of the urban fabric of Muslim countries., but still there are variations in Islamic environment due to the climatic factors .

⁶ al-Sayebi, Y. "Housing Problem In the Islamic City ." In *The Housing The Islamic City* .Center Of Planning And Architectural Studies (Eds.) Proceedings Of Symposium Held In Ankara, Turkey 21-25 July 1984 A. D. Sponsored By: Organisation Of Islamic Capitals And Cities.

⁷ El-Refa'y, M. K. "Toward An Contemporary Architecture Taking Its Elements From Islamic Architectural Design." In "*The Islamic Methodology For The Architectural And Urban Design* " . The 4th Seminar Of The Organisation Of Islamic Capitals And Cities " OICC" 22 APRIL 1991 AD. S. Koshak, Abdel Kader-

⁸ al-Angary, M. A. "The Islamic City , Its Urban And Architectural Development. "A Brief On The City Of Riyadh's Experience" In "*The Islamic Methodology For The Architectural And Urban Design* " . The 4th Seminar Of The Organisation Of Islamic Capitals And Cities " OICC" 22 APRIL 1991 AD. S. Koshak, Abdel Kader (Gen. Supervisor) Pp. 71-76.

⁹ Sagwani, I. J. "The Effect Of The Islamic Methodology On Style And Character In Town Planning," In "*The Islamic Methodology For The Architectural And Urban Design* " . The 4th Seminar Of The Organisation Of Islamic Capitals And Cities " OICC" 22 APRIL 1991 AD. S. Koshak, Abdel Kader (Gen. Supervisor) Pp. 25-41..

¹⁰ al-Anzi (1991) "Urban Design Criteia for the Development of Islamic Residential Environment "In "*The Islamic Methodology For The Architectural And Urban Design* " . The 4th Seminar Of The

The concern with the climatic factors (studied, among these by Belkacem¹¹) that can be noticed in the traditional built environment came about through the Muslim belief that it is part of obeying Allah to adapt to the environment by utilising everything in it to their benefit.

Allah said: *It is He who has made the earth manageable for you, so traverse you through its tracts and enjoy of the sustenance which He furnishes; but unto him is the resurrection.*

Abdulac¹² argues that traditional buildings such as courtyard houses were designed for the climatic comfort of the inhabitants. They provide an open area with protection from sun, wind and sand. The high ratio of internal volume to external surface adapts the building's temperature to extreme fluctuations. Clustering building neighbourhoods also achieves this protection.

Although most of the previous researchers believe that there is more unity among the Islamic cities than diversity, we cannot argue that all the built environments in the entire Islamic world are identical and could be called an "Islamic". We should accept that there are some cities in the Islamic world which have been influenced by the historical background or cultural customs that have been formed before Islam. Also, during the colonial period, some Islamic countries have been influenced by imported architecture and planning that been developed in other parts of the world. Cities such as Jakarta, Kuala Lumpur or Georgetown (Penang) are part of the Islamic world but cannot be said to

Organisation Of Islamic Capitals And Cities "OICC" 22 APRIL 1991 AD. S. Koshak, Abdel Kader (Gen. Supervisor) Pp 77-85.

¹¹ Youssef, Belkacem (1981) "Bioclimatic Patterns And Human Aspects Of Urban Form In The Islamic City" In *The Arab City*. Ismail Serageldin And Samir El-Sadek (Eds.) Proceedings Of A Symposium, Medina, Saudi Arabia, Pp. 2-12.

¹² Samir Abdulac "The Relevance Of Traditional Muslim Housing Designs For Contemporary Arab City Planning" *Arab City*. Ismail Serageldin And Samir El-Sadek (Eds.) Proceedings Of A Symposium, Medina, Saudi Arabia, Pp.294-302 .

reflect an Islamic built environment. The discussion of whether the Muslims living in these cities are satisfied with their built environment is beyond the scope of this study. However, we would expect that pilgrims from such built environments would expect to find a model Islamic built environment when they travel to the two holy Islamic Cities of Makkah and al-Madina.

4.2.4 Comparison of Traditional and Contemporary Islamic Built Environment

Hakim¹³ considers that unlike Western Zoning, which is in the form of numerical standards, the building principles and guidelines in the Arabic - Islamic cities are based on performance criteria designed to meet various problems and conditions. Furthermore, he states that the design language vocabulary in Arabic - Islamic cities served to enhance communication between people. This resulted in a strong interaction with the Fiqh or Islamic law.

Bokhari¹⁴ believes the restructuring of both society and environment has advanced the physical process in Arab - Islamic cities today. He argues that, since there are a number of different combination of variables, it is physically impossible to build an early Islamic city. We can, however, have it in terms of a socio-cultural context.

¹³ Hakim, Basim, S. Arabic-Islamic Cities. Building and Planning Principles. K.P.I., London, U.K. 1986.

¹⁴ Bokhari, Abdulla Yahia (1981). "On The Identity Of The Arab-Islamic City, Past And Present *The Arab City*. Ismail Serageldin And Samir El-Sadek (Eds.) Proceedings Of A Symposium, Medina, Saudi Arabia, Pp 78-83.

4.2.5 Islamic Principles as the Basic Determent of Traditional Islamic Built Environment

Although the physical factors have affected the form of the traditional Islamic environment, the socio-cultural factors are the primary factors which affect the form. Thus, even if the form is a response to physical factors such as climatic conditions, the socio-cultural factors, such as applying religious rules, are the ones which influence the people to act and form their built environment to satisfy their climatic needs.

Amos Rapoport ¹⁵ argues that it is people's vision of the ideal life, constrained by a certain climate, the availability of certain materials, and a given level of technology, that decide the form of a dwelling, and mould the spaces and their relationships. Many socio-cultural forces, including religious beliefs, family and clan structures, social organisation, livelihood, and social relations between individuals are reflected in the desired environment. His basic hypothesis is that house form evolves from a whole range of broad socio-cultural factors, not simply the result of physical forces or any single causal factor. Form, according to him, modified by the physical environment, makes some things impossible and encourages others, and by methods of construction, materials available, and the technology used to achieve the desired environment. The socio-cultural forces are primary, and the others as modifiers are secondary.

Lawrence ¹⁶ believes a new approach to studying Islamic cultural heritage in Arab cities is the socio-cultural coding of its domestic space. This coding upholds his belief that architectural space is the formal expression of society. The valid method for its study is through its history and definition in relation to its own tradition. He states the quality of

¹⁵ Amos Rapoport (1969) *House Form And Culture*. Prentice-Hall, Inc, Englewood Cliffs, N.J.

¹⁶ Lawrence R. (1981) "The Appropriation Of Domestic Space : A cross-cultural Perspective" In A. E. Osterberg, C. P. Tiernan And R. A. Findlay (Eds.) *Design Research Interactions*. EDRA 12. Washington, Dc: Environmental Design Research Association.

architectural space fundamentally need not be limited to considering a specific building type. It should look also to the urban and social organisation of Arab towns in order to reinterpret the meaning and the intention of its design. The design reflects the values of the building users at a given time.

Mostafa ¹⁷ stresses that a Muslim's life is greatly influenced by Islamic principles and concepts that regulate the relationships within the community, in addition to his living space .

Actually, Islam organises all aspects of the Muslim. Its main principle is to prohibit any person from doing harm to himself, to his neighbour or to society in general. From this perspective the privacy role is established in Islam.

al-Hathloul ¹⁸ states that in Muslim law privacy was a way of removing the damage of being over looked. The placement of doors within the street, the avoidance of windows on the street and the limit on building height throughout the city reflects this concern for privacy .

Privacy, as one of Islamic principles, has not just influenced the relationship between the accommodation and the surrounding areas, but also affects the internal layout of the building. This type of privacy could be called "interior privacy" (i.e., privacy within the house itself) such as the separation of female and male quarters or guest areas from inside areas in order to maintain privacy. We can even argue about other smaller types of privacy between the members of the family themselves. For example, in Islam girls and boys should not sleep in the same room once they reach a certain age, and they are supposed to

¹⁷ Moustafa, S. L.(1984) Ibid. op. Cit, Pp.51-62.

¹⁸ al-Hathloul, S. (1980) "Urban Form in Arab-Muslim Cities". *Ekistics*, Vol. 47, No. 280, Jan / Feb. 1980. Pp. 15-16.

knock on the door if they would like to enter the bedroom of their father and mother during sleeping time. Another small type of privacy between one member of the family and another is that toilet doors will be locked when some one is using them.

The courtyard house design as one of the characteristics of the traditional Islamic dwelling was developed to satisfy both the privacy of inhabitants and their climatic comfort.

Mostafa¹⁹ argues that one of the basic principles in Islamic architectural design is the introversion concept, i.e. the integration of elements in the direction of interior space (the patio courtyard). This concept can be noted in architectural patterns for religious and civil buildings, and different types of dwellings. The courtyard, a common element in all the Islamic civil and religious buildings, is interpreted as the symbol of life. It is the focal point for the elements that surround it and open onto its space. The plan of the Prophet's house includes the typical residential Islamic courtyard plan. Its court area had the surrounding walls and rooms opening into it. Mostafa believes that, because nobody thought of the Holy Qur'an and Prophetic Sunnah as the origin of legislation and intellectual inspiration, incorrect theories developed to explain the Arab's use of the courtyard. Islam has affected the Muslim's behaviour, mode of living and social relations. It is evident in the relationship between house design and architectural components.

Belkacem²⁰, when he discusses human impact on urban form, suggests that the courtyard house in traditional Arab-Islamic architecture was structured to the gender roles. Man corresponds to the exterior space, and woman, who is more domestic, corresponds to the interior space, the house. Other urban elements reflect this form and structure of space: the enclosure of the mosque which separates the Muslim from the materialistic outside world, and the *madrasa*, an enclosed study space which

¹⁹ Moustafa, S. L. "The Islamic Identity In The Design Of Courtyard Houses". In *The Housing The Islamic City*. Center Of Planning And Architectural Studies (Eds.) Proceedings Of Symposium Held In Ankara, Turkey 21-25 July 1984 A. D. Sponsored By: Organisation Of Islamic Capitals And Cities, Pp.51-62.

²⁰ Youssef, Belkacem (1981) Ibid. op. Cit, Pp. 2-12.

encourages concentration. In large context, this structure of space is represented by walled neighbourhoods and the city wall.

The courtyard is a concept that emphasises privacy, one of the important principles in Islam. This concept can be understood from many sayings in the Qur'an and Sunna.

Allah says *"Who believes, enter not houses other than your own, until you have asked permission and saluted those in them: that is best for you, in order that you may need (what is seemly)"*.

This privacy could be achieved in other ways. The courtyard house is one good example, but not the only type of house in an Islamic settlement.

The confirmation of Islam in the unity and relationship between the society members has a significant impact in the selection of house location or ownership. Consequently, traditional built environmental patterns are presented in the irregular layout of the units as well as the urban settlements. The land ownership concept, apart from the owners' capabilities, was affected by being near relatives, as well as the desire of traditional Muslims to build their houses near the mosque, as did the Prophet when he arrived in Madina where his companions were looking to occupy the land nearest to his Mosque.

Ibrahim ²¹ argues that affective factors of land ownership such as the owner's capabilities, his family, tribal or social commitments in the old Islamic cities influenced the size shape and direction of the land. It resulted in the traditional make up of the Islamic city and differentiates it from that of the contemporary city.

²¹ Ibrahim (1991) "The Islamic Methodology for the Theory of Urban Design," In *"The Islamic Methodology For The Architectural And Urban Design"* . The 4th Seminar Of The Organisation Of Islamic Capitals And Cities " OICC" 22 APRIL 1991 AD. S. Koshak, Abdel Kader (Gen. Supervisor), Pp.13-18.

4.2.6 The Validity of Islamic Principles as a Guide for the Contemporary and Future Islamic Built Environment

In al-Yawer²², the approach to giving the city a religious and regional identity by using Islamic decorative craft styles and motifs on large scale contemporary buildings is in conflict with the essence of the traditional Islamic city. Traditional Islamic urban spaces grew as a direct response to the basic needs, limited means and conservative aspiration of the inhabitants. As an approach for the future, he suggests finding a way to install traditional elements in the new forms, for example reintroducing pedestrianisation on a scale with the intensity of use of the traditional Islamic city, and by restricting vehicle access to key urban areas to promote harmony with elements of the climate.

Ibrahim²³, on the other hand, suggests basing planning theory perception on Islamic values in the Holy Qur'an and prophetic Sunnah because they are the motivators and co-ordinators of life in Islamic communities.

al-Angary²⁴ argues that, in order to reflect the characteristics of traditional Islamic cities on the urban form of our cities at present, they need to be comprehensively reviewed on the basis of the social system, economy and the available technology.

So we need to study our traditional settlements and to look to the Islamic references to develop guidelines for our contemporary and future cities. The only way to identify these guidelines is to study Islamic law and investigate the main principles that affect the Muslims and their built environments.

²² al-Yawer, Duraïd (1981) "Urban Space In The Islamic City : Development And Prospects With Particular Reference To Kuwait " In *The Arab City* .Ismail Serageldin And Samir El-Sadek (Eds.) Proceedings Of A Symposium, Medina, Saudi Arabia, Pp. 111-119.

²³ Ibrahim (1991) Ibid. op. Cit, Pp.13-18.

²⁴ al-angary (1991) Ibid. op. Cit, Pp 71-76.

4.3 The Source of Islamic Principles

The fundamental Islamic principles are derived from the Islamic law of “Shariah”. This Shariah, or Islamic law, is the main organiser of the relationship among man and himself, others and the environment. Hakim²⁵ argues that according to al-Shafi’i (one of early Islamic scholars) there are four major sources of the Islamic law: 1) The Qur’an, 2) the Sunna (the prophet’s sayings or behaviour), 3) The Ijma (the consensus of the entire Muslim community), and 4) Qiyas or Ijtihad (the use of human reason in the elaboration of the law).

4.3.1 The Holy Qur’an

The main source of Islam is the Holy Qur’an which was revealed to the Prophet Mohammed (PBUH) starting in the year 610 AD. The Holy Qur’an consists of 144 Sura (i.e., Chapters). Each chapter is divided into verses. The Holy Qur’an was revealed in portions on occasions during the twenty - three years of Mohammed’s prophethood. This gave the Prophet’s companions time to learn and recite the chapters and the verses of the Qur’an and proved to be the strong connection between the Holy Qur’an and life (AlKhuli)²⁶.

²⁵ Hakim, Basim, S. (1986) Ibid. op. Cit.

²⁶ AlKhuli (1982), The Light of Islam, al-Farazdak Press, Riyadh, Saudi Arabia.

The Qur'an, truly comprises secular and social aspects such as the laws on inheritance, economic, political, commercial, personal and public codes of behaviour and social life as well as the environment (al-Rahman) ²⁷.

Muslims believe that the Qur'an does not neglect to give clarification and guidance for any verdict or matter.

Allah said: *"We have explained in detail in this Qur'an, for the benefit of mankind, every kind of similitude: but man is, in most things contentious."* Sura (18) al-Kahf verse (54).

Also, Allah said: *"This (the Qur'an) is a plain statement for mankind, a guidance and instruction to those who are al-Muttaqun (the pious)"* Sura (3) al-Imran verse (138).

The comprehensiveness and inclusiveness of the Qur'an is believed by Muslims to give it the solidity to be a good reference and guide, not only for Muslims but for all Mankind, at any time and in any place. Therefore, the Qur'an is considered as applicable, effective and valid for all types of knowledge. Allah ordered Muslims to think and consider his revealed verses. Muslims believe that harm, loss and mischief will occur if we do not follow the Qur'an.

The consistency and the full elaboration of the Qur'an allows it to be a satisfactory and final judge of any differences among people. Therefore it can be considered by Muslims as the main guide for achieving a satisfactory built environment.

²⁷ al-Rahman, H.A. (1985), 'Review and analysis of land use regulations in Jeddah, Saudi Arabia'. Unpublished MSc. Thesis, University of Wales, Cardiff.

4.3.2 The Sunnah (Prophetic Hadith or tradition)

Sunnah is the second fundamental source of Islamic Principles. In Arabic, Sunnah literally means the 'methods' and, in the Shariah, it means the sum total of the teaching, acts and tacit approval of the Prophet Mohammed (PBUH).

Allah said: "*Nor does he say (ought) of his own Desire.*" Sura (53) al-Nagm, verse (3).

The Sunnah merely explains the tradition of the Prophet, which is needed to explore and demonstrate how Muslims should carry out certain injunctions mentioned in the Holy Qur'an and furnish them with explanation of Qur'anic verses, formulating new policies for the social and natural environments. The Hadith is the tradition and sayings of the Prophet Mohammed (PBUH) (al-Shareef) ²⁸.

Hadith (which is translated as a story, a narration, a report), is a very short informative narrative, of two parts, the passage (*matn*) and the transmissional chain of support (*isnad*), which gives the names of the narrators. It tells what the Prophet said, did, or approved or disapproved. ²⁹

Allah ordered us to take what he assigns and deny ourselves the things that he withholds from us.

Also Allah said: "*.... so take what the apostle assigns to you, and deny yourselves that which he withholds from you...*" Sura (59) al-Hasher verse (7).

²⁸ al-Shareff, M. (1988), Urban Metamorphosis of Arab-Muslim Cities: with Particular Reference to At-Taif City,, Saudi Arabia'. Unpublished Ph.D. Thesis, University of Wales, Cardiff. Pp. 199-203.

²⁹ Fazur Rahman (1979), Islam (second edition). University of Chicago Press, Chicago and London. P.53- 54.

4.3.3 Qiyas (Analogical Reasoning)

The fourth basis for Islamic principles is the Qiyas, which literally means analogy or deduction by legal analogy. According to al-Rahman ³⁰, Qiyas allows precedents in deciding new cases that cannot be dealt with otherwise.

The term comes from the earliest conscious analogical reasoning called 'personal judgement' or 'considered personal opinion' (*ra'y*). When a new or refined and complex issue comes up for which the Qur'an and the Sunna gave no clear and unquestionable decision, a verse of the Qur'an or a general principle or a specific case in Sunna is examined and a judgement is made on its merits relating to the present issue. This process of analogical reasoning is called Qiyas by Muslim jurists. It can be defined as a conclusion from a given principle embodied in a precedent. New cases which are linked by this principle, or are similar to this precedent, are bound by a common essential feature called the 'reason' (*illa*).³¹ Qiyas was helpful in management in early Islamic times, as well as at the present time, with regard to the problems which are not found either in the Qur'an or Sunnah (al-Shareef) ³².

In the first half of 8th/ 2nd century a more systematic thought process arose especially in al Madina by Malik, one of earlier Muslim scholars who died 795 A.D/ 179 A.H. He continued to use the term *ra'y* but the procedure had become more systematic, helped and strengthened no doubt by the fact that a relatively unanimous doctrine centring on the concept of 'agreed practice' or *Ijma* had developed by this time in al Madina.³³

³⁰ al-Rahman, H.A. (1985), Ibid. op. Cit.

³¹ Fazur Rahman (1979), Ibid. op. Cit. P.71.

³² al-Shareff, M. (1988), Ibid. op. Cit. Pp. 199-203.

³³ Fazur Rahman (1979), Ibid. op. Cit. Pp.71-72

4.3.4 Ijma (Consensus)

Ijma is defined as the consensus of opinion of the nation or Muslim community, producing given solutions to specific problems at any time (Hajrah,) ³⁴. It refers to the decision of the community at large.

Allah said: “ *And whoever contradicts and opposes the Messenger (Mohammed PBUH) after the right path has been shown clearly to him, and follows other than the believers' way. We shall keep him in the path he has chosen, and burn him in Hell - what an evil destination*” Sura (4) An-Nisa verse (115).

The interplay between *Qiyas* and *Ijma* is seen as a lively process of negotiation, open debate and modification. According to al-Shafi'I the *Ijma* is for the scholars because they alone can know and agree about it. Thus when in agreement it is authoritative for all; but if they disagree, their opinion has benefits no one. In this case such matters must be referred back to a new *Qiyas* (analogical reasoning) on the basis of what progress has been made ³⁵.

4.4 Islamic Principles And their Effect on The Degree Of Satisfaction Within the Built Environment

Due to the magnitude of the topic of the Islamic Principles the discussion will be limited to Islamic principles as a determinants of the satisfaction with the accommodation, the

³⁴ Hajrah, H. (1982), Public Land Distribution in Saudi Arabia, Longman, London and New York.

³⁵ Fazur Rahman (1979), Ibid. op. Cit. P.74.

neighbourhood and the city and be based on the two main fundamental sources of the Islamic Principles, The Holy Qur'an and The Prophetic Hadith.

Also the selected verses of Qur'an and the Prophet's sayings are the only references that the researcher thought might reflect deduced Islamic Principles related to specific elements of satisfaction or dissatisfaction. Appendix A will contain references of Qur'anic verses and Prophetic Hadith. It shows the approach of developing the main sources of Islamic principles into a tool to determine the specific aspects of satisfaction and dissatisfaction of the built environment consisted of the following five steps:

Step 1: Start by selecting the related verses of the Qur'an and the Prophet's sayings in the following subjects :

- A) The reason for selecting the Qur'an and Hadith as a guide to the Muslim built environment.
- B) General guide that may reflect in the Muslim relationship with their social, economical and physical built environment.
- C) Specific references related to pilgrimage and pilgrims as the subject and the target group of this research.
- D) References related to the built environment which could be divided into the following:
 - 1. The residence or accommodation as the micro built environment.
 - 2. The neighbourhood and city as the macro built environment. This includes issues such as, the neighbourhood rights, neighbourhood boundaries, mosque, market places, roads and spaces, the importance of the Prophet's City as an Islamic centre.
 - 3. Issues that could be related to both the micro and macro built environment such as: Aesthetic values, lighting, drinking and ablution, harvesting (landscaping) and planting, and entertainment.

- Step 2: Studying the selected verses of the Qur'an and the Prophet's Sayings found in the Step 1 and interpret the meaning that could be understood from a Muslim point of view. This stage aims to specify the Islamic principles related to the subject concerned that could be deduced from the original sources of Islam. It is actually an intermediate process before determining the satisfaction and dissatisfaction issues of the built environment.
- Step 3: The Islamic principles that have been determined in Step 2 were used as a base to develop the specific elements of satisfaction and dissatisfaction of the built environment.
- Step 4: The results that have been obtained in Step 3 were based on the individual analysis of each of the general subjects that have been used in Step 1. Because, some elements of satisfaction and dissatisfaction can be general or related to more than one level of the built environment, a further development is needed to obtain a more specific framework for this study. The findings in Step 3 were used to build a framework for the major aspects of satisfaction that could be related to the accommodation, the neighbourhood and the city (Fig A.1).
- Step 5: Each of the major aspects of satisfaction were further divided into the related variables that could be understood from the previous steps. Thereby, we could develop the minor aspects of satisfaction with the accommodation, the neighbourhood and the city (Fig A.2, A.3, A.4)³⁶.

We can demonstrate this approach by examining the issue of residence. We can select the following verses of Qur'an and the Prophet's sayings which are mainly concerned with the accommodation (Step 1):

³⁶ The final result of Step 5 was adapted to generate the structure of questionnaire of the survey (see section 5.4).

Allah said: *“O ye who believe! Let those whom your right hands possess, and the (children) among you who have not come of age ask your permission (before they come to your presence), on three occasions: before morning prayer; the while ye doff your clothes for the noonday heat; and after the late-night prayer: these are your three times of undress: outside those times it is not wrong for you or for them to move about attending to each other : thus does God make clear the signs to you: for God is full of Knowledge and wisdom *”* Sura (24) al-Nur, verses (58).

Prophet (PBUH) said: *“Teach your children how to pray by the age of seven and punish them if they don't pray by ten years; separate boys bedrooms from those of girls.”*

Our interpretation of the meaning (Step 2) of the above references could be determined through dividing them into parts as follows:

“O ye who believe! Let those whom your right hands possess, and the (children) among you who have not come of age ask your permission (before they come to your presence),” which reflects the stress of the **privacy** (clearly from the word *permission*). This type of privacy is among the parent and family children and other member of the household (**inside Privacy**). Hence, we understand that the best way to achieve such privacy is to consider having sleeping quarter and non-sleeping quarters when designing the layout of the accommodation. For the sleeping quarters to be satisfactory, they should contain the parent's bedroom, the boys' rooms, the girls' rooms. This could be understood from the Prophet's (PBUH) saying *“...; separate boys bedrooms from those of girls.”*. Therefore both the **number of bedrooms** and the **size of residence** are a measure of satisfaction with the accommodation. Also, the above verses determined the specific times of asking permission *“on three occasions: before morning prayer; while ye doff your clothes for the noonday heat; and after the late-night prayer: these are your three times of undress”* which reflects that quietness is one of the main function of the accommodation to be considered. Therefore, aspects such as **audible privacy** and **exterior noise transmission** were declared as a satisfaction measures for the convenience of the

residents. The time when a member of the house was using the toilet was not mentioned among the “*three times of undress*” but we can use the *Qiyas* (analogical reasoning) in this situation since it is human nature to be sometimes undressed in the toilet. This means that the toilet can not be used by more than one person at a time, therefore **number of toilets** are consider as determinants of the degree of satisfaction with the residence.

As noted, the above references contained a number of specific elements of satisfaction (**emboldened**), which could be listed with others that could be obtained from the other deduced Islamic principles as in the 3rd Step of our systemic analysis.

The above variables show relationship patterns among some of them, therefore they can be grouped into a number of major satisfaction elements (Step 4). Aspects such as the privacy, inside privacy and audible privacy are related to “**Accommodation’s Socio-Cultural Environment**” . On the other hand, variables such as the layout of the accommodation, number of bedrooms, number of toilets and size of residence, could be grouped under the “**Accommodation’s Internal characteristics**”. Also, the exterior noise transmission represents part of the “**Accommodation’s Environmental Conditions**” .

Aspect such as privacy could be considered as a minor aspect of satisfaction at other levels of built environment. Therefore, the related variables for each of the major aspects of satisfaction were listed under it (Step 5) for a better understanding of the result of this approach.

Table 4.1 Show the development of the above three major elements of satisfaction with the accommodation. The remaining four major elements for the accommodation and the elements related to the neighbourhood and the city will be included in Appendix A.

Table 4.1: Residence

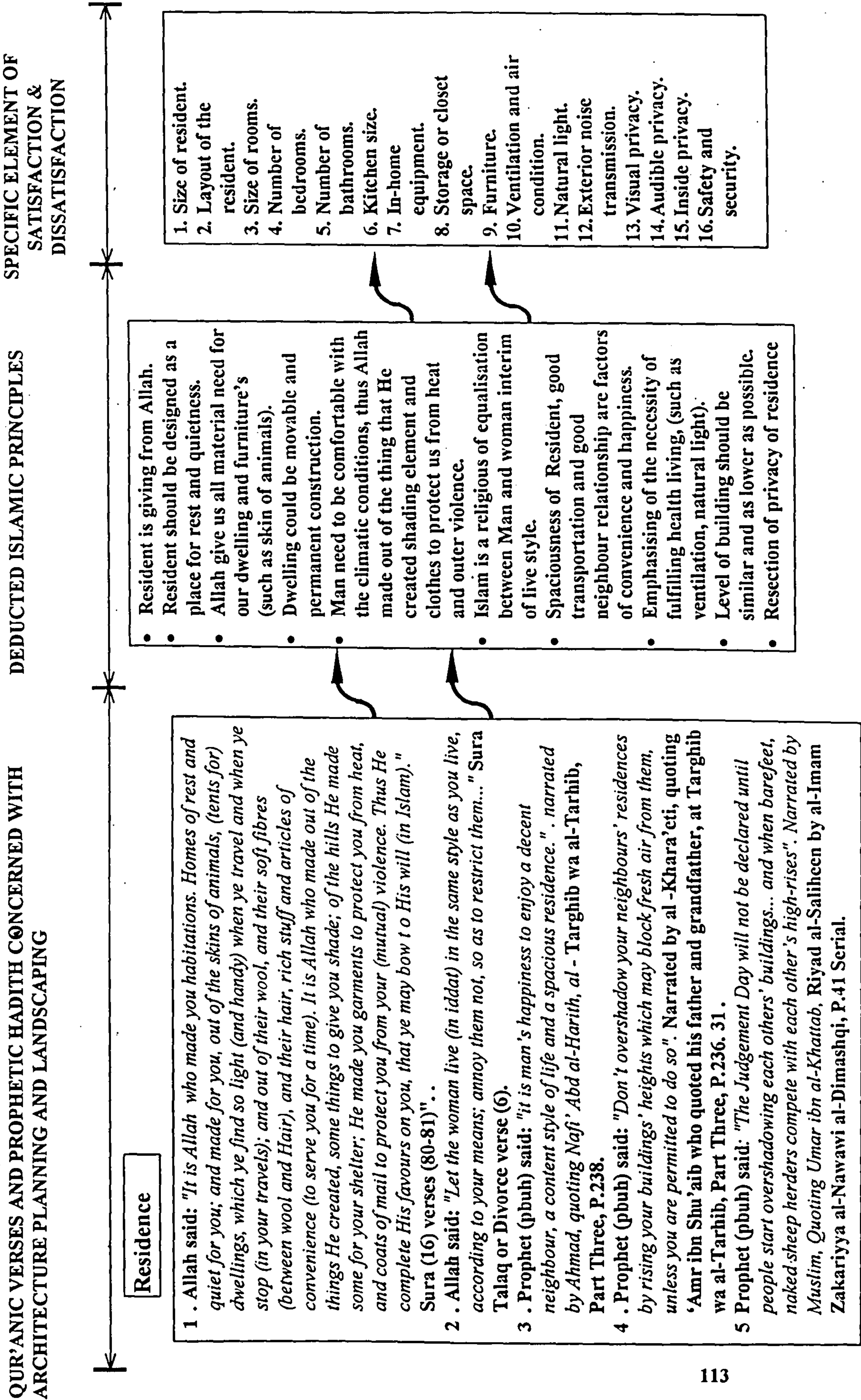


Table 4.1: Residence (continued)

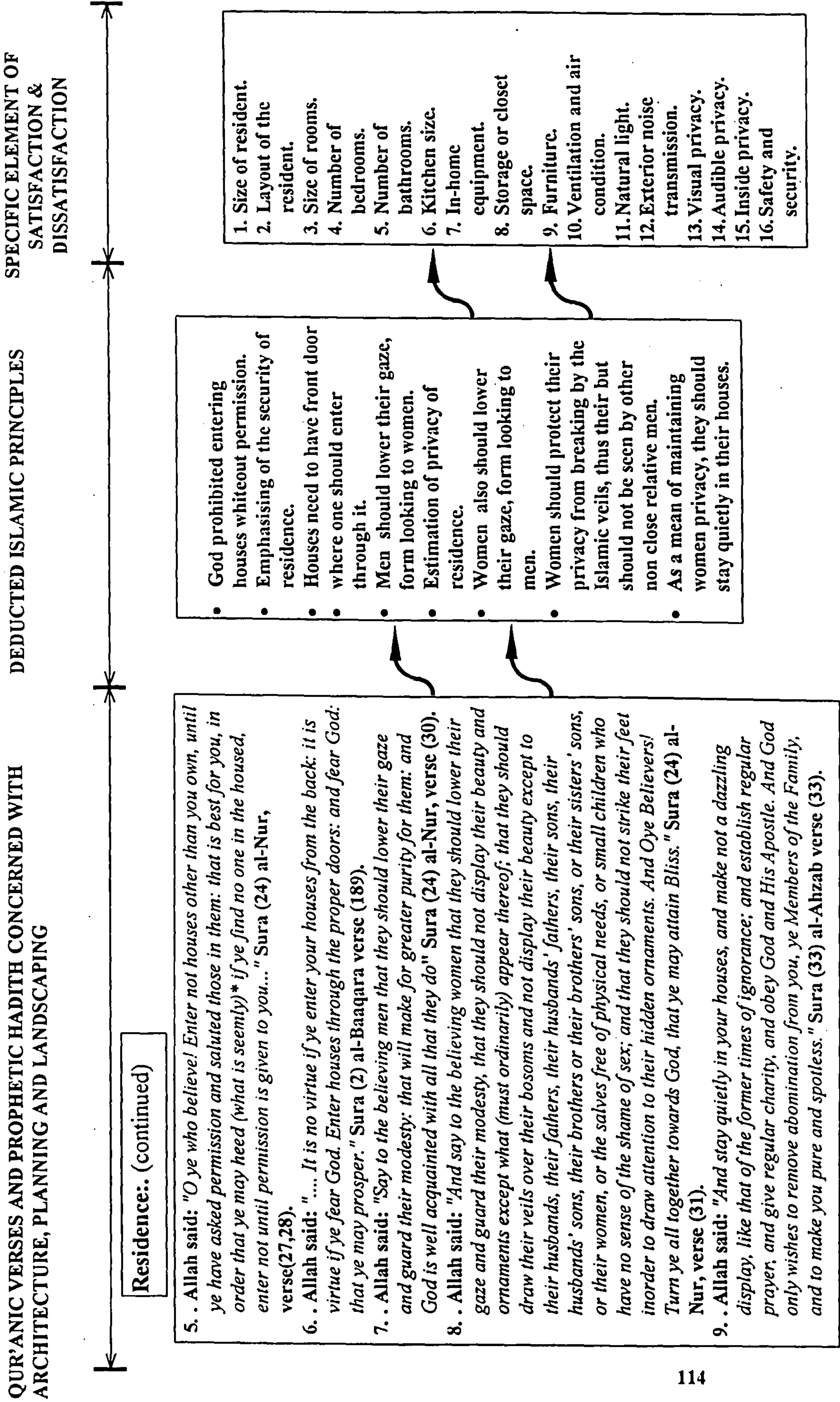


Table 4.1: Residence (continued)

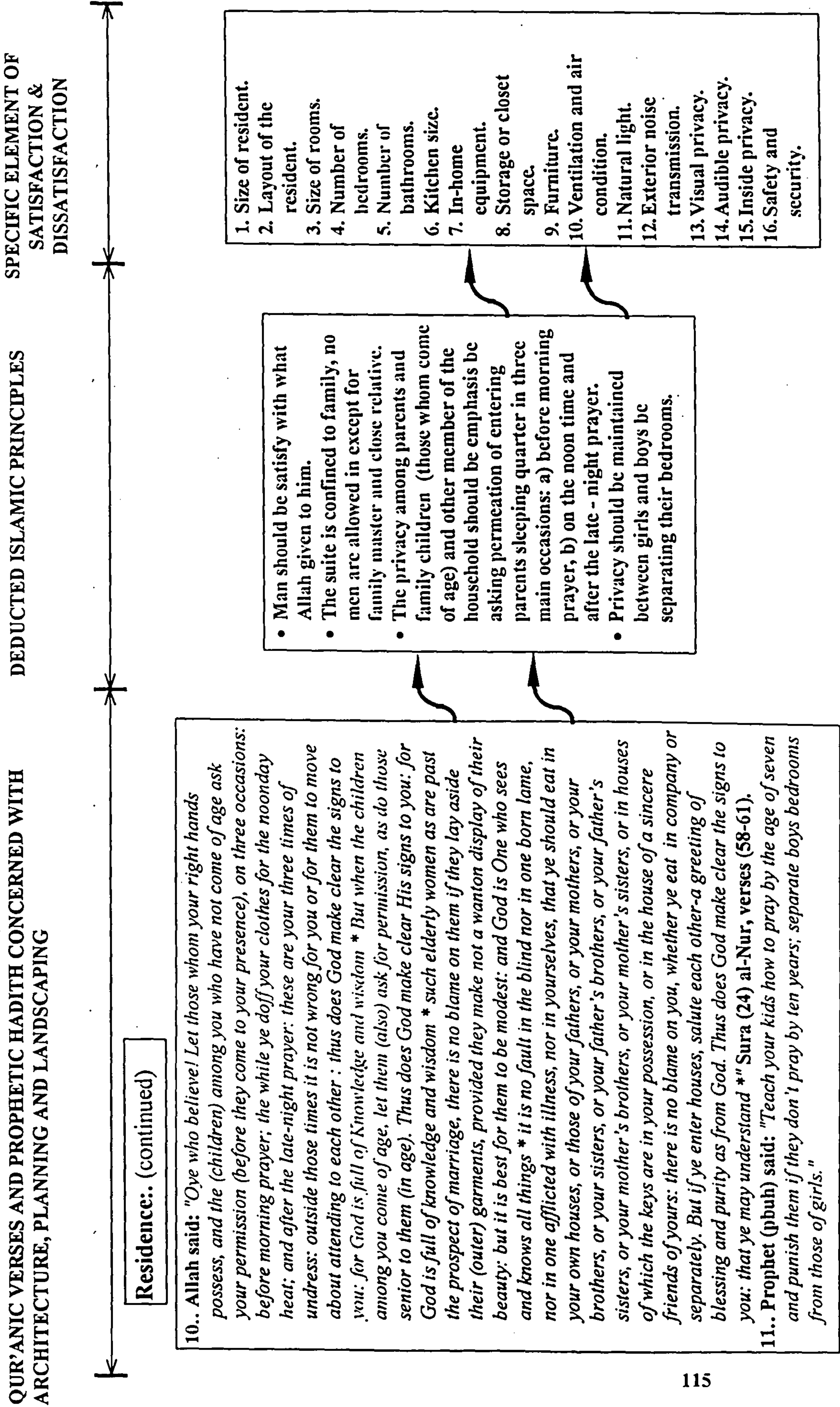


Table 4.1: Residence (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Residence: (continued)</div> <div><p>12. Prophet (pbuh) said: "Never expose what is not allowed from your body, because there are companies live with you (first kinship relatives, especially, sons and daughters), whom they do not leave you alone most of the time except in very embarrassing moments and in certain places like W.c's or bathrooms".</p><p>13. Allah said: "As the righteous (they will be) in a position of security * Among gardens and springs". Sura (44) al-Dukhan verse (51-42).</p><p>14. Allah said: "Which then is best? - he that layeth his foundation on piety to God and his Good pleasure? - or he that layeth his foundation on an undermined sand-cliff ready to crumble to pieces? And it doth crumble to pieces with him, into the fire of Hell. And God guideth not people that do wrong." Sura (9) al-Tauba verse (109).</p><p>15. Allah said: "and those who feared their Lord will be led to the Garden in crowds: until behold, they arrive there; its gates will be opened; and its keepers will say will say: "peace be upon you! Well have ye done! Enter ye here, to dwell therein *". Sura (39) al-Zumar verse (73).</p><p>16. Allah said: "And were it not that (all) men might become of one (evil) way of life, we would provide, for everyone that blasphemes against (God) most Gracious, silver roofs for their houses, and (silver) stairways on which to go up * and (silver doors to their houses, and thrones (of silver) on which they could recline * and also adornments of gold. But all this were nothing but conveniences of the present life: the hereafter, in the sight of thy Lord, is for the righteous". Sura (43) al-Zukhruf verses (33-35).</p><p>17. Allah said: "And we have made the heavens as a canopy well guarded.. " Sura (21) al-Anbiya verse (32).</p><p>18. Allah said: "By the canopy raised High:" Sura (52) al-Tur verse (5).</p></div>	<div><ul style="list-style-type: none">• The privacy also should be maintained even if some one with his alone, except in very embarrassing moments and in WC's.• Resident should be structurally stable.• Islam calls for modesty in foundation forbidding earthly features like extravagance.</div>	<div><ol style="list-style-type: none">1. Size of resident.2. Layout of the resident.3. Size of rooms.4. Number of bedrooms.5. Number of bathrooms.6. Kitchen size.7. In-home equipment.8. Storage or closet space.9. Furniture.10. Ventilation and air condition.11. Natural light.12. Exterior noise transmission.13. Visual privacy.14. Audible privacy.15. Inside privacy.16. Safety and security.</div>

Table 4.1: Residence (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING

DEDUCTED ISLAMIC PRINCIPLES

SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION

Residence: (continued)

<p>19. Abdallah ibn Umar ibn al-As said: "the prophet (pbuh) passed by us while we were mending a hut. He asked about our concern, and we answered that the hut collapsed and we were mending it. The Prophet replied: I do not see the matter is so urgent." The significance of this narration is not to neglect the maintenance but not to exaggerate the importance of earthly matters.</p> <p>20. Allah said: "He created the heavens without any pillars that ye can see..." Sura (31) Luqman verse (10).</p> <p>21. Abu Hurira quoted the prophet (pbuh) saying "Everything has a master and the setting master is facing the Quibla" narrated by Al Tarabani, confirmed by Hassan.</p> <p>22. Bin Omar quoted the prophet (pbuh) saying "Everything has an honour and the honour of a sitting is to be facing the Quibla-orientation" narrated by Al-Tabarani.</p> <p>23. Sa'ad Alghodara quoted the prophet (pbuh) saying "the best setting is the widest"</p> <p>24. Zaid Bin Thabit quoted the prophet (pbuh) saying "It is preferable to perform services at home, because the best prayer is at the man's hose, but not the written one."</p> <p>25. Prophet (pbuh) said: "He who believes in Islam, must be hospitable to his guests."</p> <p>26. Allah said: "Ye who believe! Enter not the Prophet houses - until leave is given you, - for a meal, (and then) not (so early) to wait for its preparation; but when ye are invited, enter; and when ye have taken your meal, disperse, without seeking familiar talk, such (behaviour) annoys the Prophet: he is ashamed to dismiss you, but Allah is not ashamed (to tell you) the truth..." Sura Ahzab verse (53).</p>	<ul style="list-style-type: none">• It was maintained in the Qur'an some of the architectural element such as stairways, doors and thrones (or beds) for recline as well as structural elements, such as the roof and the pillars (or the column).• It is preferable to have the setting rooms facing the Quibla for the praying purpose.• It is preferable to have large room setting room in the house.• the sitting room could be used for multipurpose.• Hospitable reception and entertainment of the guest are one of the Muslim characteristics.• Islam declared also the guest duties that he enter one house without his permeation, and when he is invited, also not to stay long after taking the meal.	<ol style="list-style-type: none">1. Size of resident.2. Layout of the resident.3. Size of rooms.4. Number of bedrooms.5. Number of bathrooms.6. Kitchen size.7. In-home equipment.8. Storage or closet space.9. Furniture.10. Ventilation and air condition.11. Natural light.12. Exterior noise transmission.13. Visual privacy.14. Audible privacy.15. Inside privacy.16. Safety and security.
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Table 4.1: Residence (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Residence:. (continued)</div> <div>27. Abu-Harira quoted the prophet (pbuh) saying "If one of you wants to sit for easing nature, let him turn neither face nor his back toward the qiblah" Transmitted by Ahmad and Moslem. 28. Abu Ayoub Al Ansari quoted the prophet (pbuh) saying " Don't have the qubla in the front of/or behind a lavatory, have the latter towards east or west." 29. Abu Dawod and others also quoted the prophet (pbuh) as saying "this is banned in open air, but if there is a barrier, it is okay." 30. Narrated Al-Bara bin Azib When Allah's Messenger (pbuh) went to bed he used to sleep on his right side"(Sahih Al-Bukhan Hadith No 327, Vol. 8) 31. Allah said: "thus have we made of you a ummat justly balanced...." Sura (2) Al- Baqara vrese (143). 32. Prophet (pbuh) said: "the resurrection will come after man has built this unnecessary high ceilings" 33. Allah said: "make your dwellings into places of worship, and establish regular players; and give glad tidings to those who believe" Sura (10) Yunus verse (87). 34. Allah said: "And it has already been revealed to you in the Book (this Qur' an) that when you hear the Verses of Allah being denied and mocked at, then sit not with them, until they engage in a talk other than that; (but if you stayed with them) certainly in that case you would be like them. Surely, Allah will collect the hypocrites and disbelievers all together in Hell. Sura (4) an- Nisa verse (140). 35. Allah said: " See you not how Allah sets forth a parable? - A goodly word as a goodly tree, whose root is firmly fixed, and its branches (reach) to the sky (i.e. very high). Sura (14) Ibrahim verse (24).</div>	<div>• It is preferable not to turn either one's face or one's back toward the Quiblah when he defecate. • It is better to sleep on the right side looking towards the Qiblah thus this should be consider in designing bedrooms. • Islam is the religious of Moderation. • Very high building not preferred. • Sitting with others is determined by the subject of their talking. • encouragement of selecting the good words in talking.</div>	<div>1. Size of resident. 2. Layout of the resident. 3. Size of rooms. 4. Number of bedrooms. 5. Number of bathrooms. 6. Kitchen size. 7. In-home equipment. 8. Storage or closet space. 9. Furniture. 10. Ventilation and air condition. 11. Natural light. 12. Exterior noise transmission. 13. Visual privacy. 14. Audible privacy. 15. Inside privacy. 16. Safety and security.</div>

Table 4.1: Residence (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING

DEDUCTED ISLAMIC PRINCIPLES

SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION

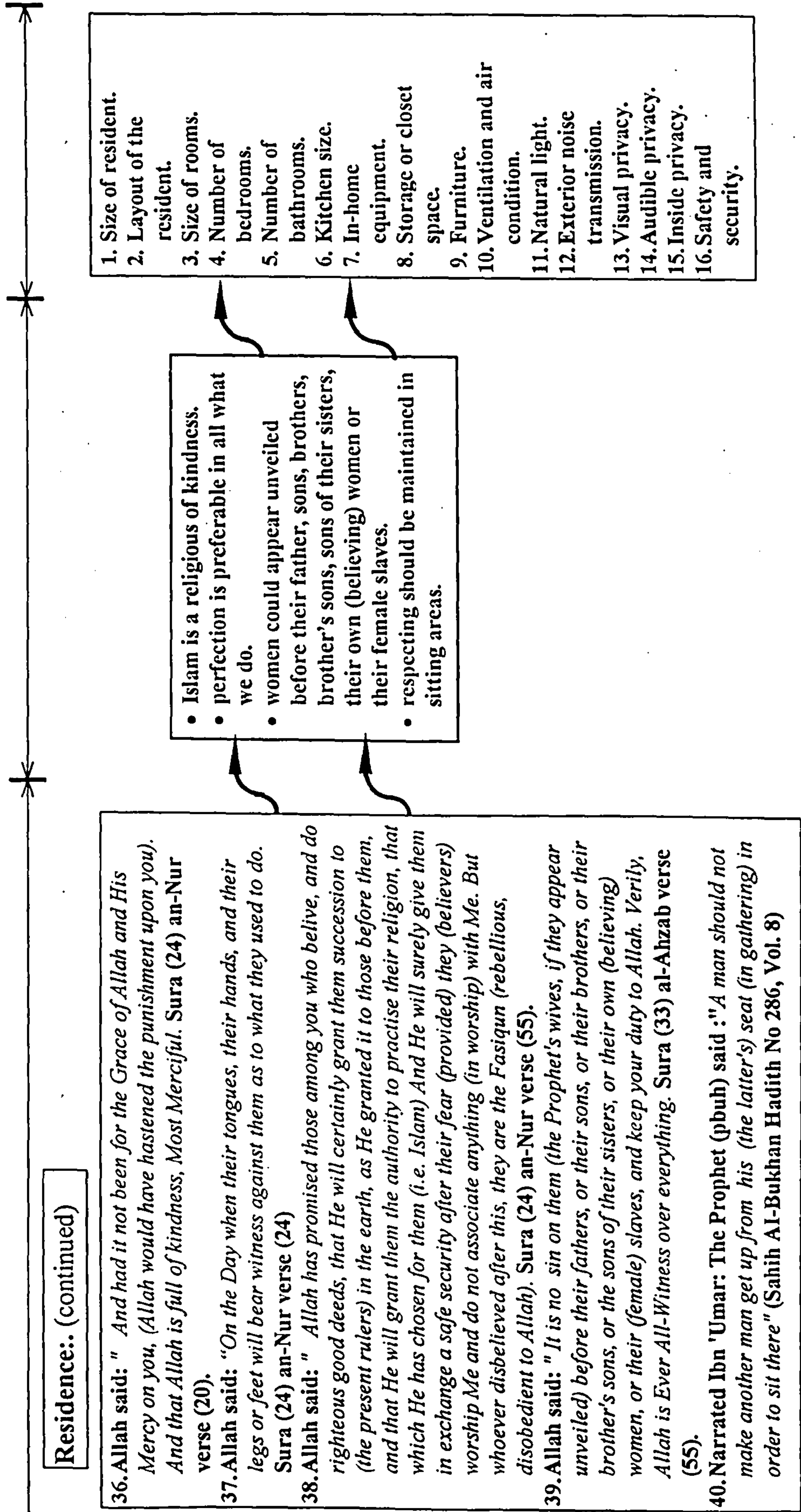


Table 4.1: Residence (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING

DEDUCTED ISLAMIC PRINCIPLES

SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION

Residence: (continued)

41. Allah said: "O Children of Adam! We have bestowed raiment upon you to cover yourselves (screen your private parts, etc.) and as an adornment, and the raiment of righteousness, that is better. Such are among the Ayat (proofs, evidences, verses, lessons, signs, revelations, etc.) of Allah, that they may remember (i.e. leave falsehood and follow truth). Sura (7) al-A'raf verse (26).

42. Allah said: "O you who believe! Avoid much suspicions, indeed some suspicions are sins. And spy not, neither backbite one another. Would one of you like to eat the flesh of his dead brother? You would hate it (so hate backbiting) . And fear Allah. Verily, Allah is the One Who accepts repentance, Most Merciful. Sura (49) al-Hujurat verse (12).

43. Allah said: "O you who believe! When you hold secret counsel, do it not for sin and wrongdoing, and disobedience towards the Messenger (Muhammad) but do it for Al-Birr (righteousness) and Taqwa (virtues and piety); and fear Allah unto Whom you shall be gathered. Sura (58) al-Mujadilah verse (9).

44. Allah said: "O you who believe! When you are told to make room in the assemblies, (spread out and) make room. Allah will give you (ample) room (from His Mercy). And when you are told to rise up [for prayers, Jihad (holy fighting in Allah's Cause), or for any other good deed], rise up. Allah will exalt in degree those of you who believe, and those who have been granted knowledge. And Allah is Well. Acquainted with what you do. Sura (58) al-Mujadilah verse (11).

45. Allah said: "Those before them indeed plotted, but Allah struck at the foundation of their building, and then the roof fell down upon them, from above them, and the torment overtook them from directions they did not perceive. Sura (16) an-Nahl verse (26).

- Privacy should be maintained.
- Avoiding suspicions and forbidding backbiting.
- Secret counsel should be held for only the righteousness and piety.
- strong foundation is essential for the stability of the roof of the building.

1. Size of resident.
2. Layout of the resident.
3. Size of rooms.
4. Number of bedrooms.
5. Number of bathrooms.
6. Kitchen size.
7. In-home equipment.
8. Storage or closet space.
9. Furniture.
10. Ventilation and air condition.
11. Natural light.
12. Exterior noise transmission.
13. Visual privacy.
14. Audible privacy.
15. Inside privacy.
16. Safety and security.

Although the final findings of this approach, as expected, contained some universal variables or values, such as cleanliness, accessibility, quietness and transport, the main development of this framework is not to say that it is “Islamic”, but rather to argue that it could be the suitable way to investigate the degree of satisfaction of pilgrims with the built environment of al-Madina.

In Islam there are general principles that affect the degree of satisfaction of Muslims with their accommodation, neighbourhood and the whole city. The five main principles of Islam are:

1. To testify that no one has the right to be worshipped but Allah and Mohammed, is the messenger of Allah.
2. To perform the prayers.
3. To pay the Zakat (Charity).
4. To perform the pilgrimage.
5. To observe fasts during the month of Ramadan.

Moreover, the faith in Islam is to believe in 1) Allah, 2) His Angels, 3) His Messengers, 4) His revealed Books, 5) The Day of Resurrection and 6) Divine preordainment. All Muslims are equal whatever their race, language or origin, except for their good conduct. As a general principle Islam encourages us in good work, in being patient, in giving to charity, being honest, having self respect, modesty, and forbidding us from things such as pride, and extravagance.

Also we are ordered to enjoy Islamic monotheism and forbid polytheism. Fortunately, Islam does not ask anyone something beyond his scope, and Allah will not punish those who forget.

Allah said: *"Allah burdens not a person beyond his scope. He gets reward for that (good) which he has earned and he is punished for that (evil) which he has earned Sura (2) al-Baqarah verse(286).*

As inheritors of the earth Muslims have to utilise it for our life in good deeds, taking into consideration that the degree of reward depends in the quality of our work. Also Muslims should follow the middle way as the best, away from extremism in seeking the hereafter thus forgetting our life.

Since the selected Case study will deal with the visitors of al-Madina as an example of a Muslim group from all the Islamic world, it is good to note that this group is supposed to be the best followers of Islamic principles because, during this time, pilgrims should follow certain principles such as not committing sin or disputing unjustly.

Allah said: *"The Hajj (pilgrimage) is (in) the well-known (lunar year) months (i.e. the 10th month, the 11th month and the first ten days of the 12th month of the Islamic calendar, i.e. two months and ten days). So whosoever intends to perform Hajj therein by assuming Ihram, then he should not have sexual relations (with his wife), nor commit sin, nor dispute unjustly during the Hajj. And whatever good you do, (be sure) Allah knows it. And take a provision (with you) for the journey, but the best provision is At- Ta qwa (piety, righteousness, etc.). So fear Me, O men of understanding. Sura (2) al-Baqarah verse(197)*

4.5 Summary

It is noted by Muslims that both the Holy Qur'an and Sunnah are considered as applicable, effective and valid guides at any time and in any place. Therefore, they are considered as a main basis for achieving a satisfactory built environment not only in the past but also for the present and future. Reviewing the two main sources of Islamic principles gives a consistent and full elaboration of two levels of the built environment: 1) the micro level

built environment which is the accommodation, and 2) the macro level built environment which is the neighbourhood, and the city.

Consequently our review of deduced Islamic principles at the accommodation level (See Appendix A) resulted in eight major aspects of satisfaction which are 1) location and accessibility 2) exterior characteristics, 3) internal characteristics, 4) environmental conditions, 5) infrastructure and services, 6) socio-cultural environment, 7) economic condition, and 8) aesthetic values.

Likewise, the study shows that the seven main factors of satisfaction found in the macro level are: 1) the main Mosque or (al-Haram), 2) city/neighbourhood location and accessibility, 3) city/neighbourhood internal characteristics, 4) city/neighbourhood roads and pedestrian walkways, 5) city/neighbourhood public facilities and services, 6) city/neighbourhood socio-cultural environment and 7) city/neighbourhood aesthetic values.

In all levels of the Islamic built environment, (the accommodation, the neighbourhood and the city), the main or major aspects of the degree of satisfaction can be divided into a number of variables. As Shown in figure (A.1, A.2, A.3, and A.4) the study has adapted 53 total satisfaction variables for accommodation, 46 for neighbourhood and 49 for city level.

These variables will be used in the following chapters as major tools for testing the satisfaction of the visitors with al-Madina built environment.

CHAPTER 5 The Research Methodology

5.1 Introduction

The previous chapters set out the research hypotheses, and background which resulted in a list of satisfaction variables with the built environment as derived from the Islamic Principles. The purpose of this chapter is to find the most suitable research method to test the stated hypotheses. First, a philosophical comparison of the two main research methods is discussed which results in choosing the quantitative rather than qualitative approach for this study. Also the face to face interview questionnaire is chosen as the most appropriate technique for the present study. Then sample design is discussed in terms of population size, sample size, sampling techniques, chosen sampling methods and sample location. Furthermore, the questionnaire design is discussed in detail in terms of the questionnaire structure and its testing through the pilot survey. Then the frame work of the main survey is discussed in three main sections: the interview development, interview assistants and time schedule of the interview. Furthermore, the method of statistical analysis is discussed at the stage of Questionnaire and tabulation, and also at the computer analysis stage. Finally the chapter concludes with a brief summary.

5.2 Research Methods

Research methods or design is defined by Hakim ¹ as being like the design of a building which will affect all the construction process, the final result and the use.

¹ Hakim, C. (1987) *Research Design.- Strategies and Choices in Design of Social Research* London: Unwin Hyman. P.1,

Thus design must co-ordinate the goals, function, reasons, objectives and specifications within the practical limits of location, time, costs and availability of staff. Research method is actually involves the main instrument that the researcher uses in gathering the data which is analysed to examine the research hypothesis and then to reach the final findings and conclusions. There is a debate in the social sciences about the two main research methods: qualitative and quantitative. In the following these two methods will be discussed.

5.2.1 Quantitative v. Qualitative

R. Scaglion² in comparing the two research methods, argues that in purely qualitative research, the analysis is given in words alone, but in the case of quantitative data the analysis is represented by a quantity statement. J. Brannen³ suggests that where the quantitative researchers start with defining the variables which they use as a fixed instrument of collecting and analysing the data, the qualitative researchers in contrast develop general concepts with more flexibility in collecting the data. The data in the qualitative research may end with certain variables as findings. He argues that, in terms of generalisation, quantitative research aims to discover how many and what kind of people, in general, have a particular characteristic and what the relationship might be between the variables related to that population. On the other hand, qualitative research, is concerned with the concept and categories, not their occurrence and frequency. In other words qualitative work does not survey the terrain.

Hammersley⁴ argues that the nature of the data is what makes the difference in character between qualitative and quantitative approaches. He believes that

² Kane, E.(1987) *Doing Your Own Research*. chapter XI: Analysing the Results by Scaglion, R. Marion Boyers Pbk. Pp. 152-153.

³ Brannen, Julia (1992) "Combining qualitative and quantitative approaches an overview". *Mixing Methods: Qualitative And Quantitative Research*. (Eds.) Brannen, J. chapter 1, Pp. 3-37 Aldershot: Brookfield, USA : Avebury.

⁴ Hammersley (1992) "Deconstructing the qualitative - quantitative divide". *Mixing Methods: Qualitative And Quantitative Research*. Brannen, Julia (Edt), Pp. 39-55 Aldershot; Brookfield, USA : Avebury.

understanding the perspectives of the people qualitatively is very important if we are to describe and explain their behaviour clearly. On the other hand, much quantitative research is concerned with attitudes rather than simply with behaviour.

In terms of representation, the quantitative approach seems to be more representative than the qualitative approach since it usually contains more cases of the total population.

“Qualitative researchers often believe that a proper understanding can be achieved only through *in-depth* examination of specific cases. Indeed, qualitative researchers often initiate research with a conviction that big-picture representations seriously misrepresent or fail to represent important social phenomena.

The starting point of quantitative analysis is the idea that the best route to understanding basic patterns and relationships is to examine phenomena across many cases. Focusing on any single case or on a small number of cases might give a very distorted picture. Looking across many cases makes it possible to average out the peculiarities of individual cases and to construct a picture of social life that is purified of phenomena that are specific to any case or to a small group of cases.” (Ragin)⁵.

Bullock, Little and Spencer⁶ discuss the differences between qualitative and quantitative research noting that qualitative work is often seen as deep or as a micro-perspective which is based on individual case studies or evidence from particular situations. Quantitative survey, in contrast, implies the application of a measurement or numerical approach to the nature of the study under examination as well as to the collecting and analysis of data.

⁵ Ragin, Charles C. (1994) *Constructing Social Research: The Unity And Diversity Of Method* London: Pine Forge Press. Pp. 81-82.

⁶ Bullock, Little and Spencer (1992) “The relationship between quantitative and qualitative approach in social policy research”. *Mixing Methods: Qualitative And Quantitative Research*. Brannen, Julia (Edt), chapter 4 Pp. 81-99 Aldershot; Brookfield, USA : Avebury.

5.2.2 “Triangulation” : Combining the Qualitative and Quantitative Research Methods

Using more than one technique of research design or what has been called “Triangulation” is one of the issues which divides the social sciences. Researchers are split into two groups that can be classified into those who support the theory of combining the qualitative and quantitative methods, which they argue will enhance the evidence of the research findings, and the others who are against the combination due to their belief that it will increase the chance of error in the research findings.

Bryman⁷ identified a number of different approaches in which quantitative and qualitative research, could be used together. Among them are:

- “ 1. The logic of triangulation: the findings from one approach is checked against the findings deriving from the other type, to enhance the validity of finding.
2. Qualitative research facilitates quantitative research by providing background information on context and subjects; and acts as sources of hypotheses.
3. Structure and process: The strengths of quantitative research at getting to the unstructured features of social life, and qualitative studies in terms of ‘processing’ aspects can be brought together in a single study.
4. Qualitative research may facilitate the explanation of relationships between variables found through quantitative study.”

5.2.3 Choosing A Research Method

Reviewing the two main research methods shows that the qualitative technique is not suitable for this research because of the following:

1. The study is concerned with testing determinant aspects of satisfaction (variables) which will be used as a fixed instrument for the data collection as

⁷ Bryman (1992) “The quantitative and qualitative research: further reflections on their integration”. *Mixing Methods: Qualitative And Quantitative Research*. Brannen, Julia (Edt), chapter 3 Pp. 56-78. Aldershot; Brookfield, USA : Avebury.

well as in the analysis of these data. Therefore, the outcome is not to obtain variables as in the qualitative technique.

2. The study involves studying a wide range of population (Pilgrims) with different characteristics in terms of languages and geographical backgrounds. Therefore, it is impossible to limit the instrument of the study to only the researcher himself (who is only familiar with Arabic and English languages) as in the case of the qualitative methods.
3. Having this variety of population as the target of this study, and those who came for only a short period, the generalisation can not be achieved by focusing on a small sample size as in the qualitative technique.

This study is mainly concerned with the pilgrims' satisfaction which involves "attitudes investigation" rather than "behaviour investigation" which is the case of qualitative approach.

The above points lead to our using the quantitative methods as it seems the most appropriate for the present study because:

1. The study must be able to investigate the validity of Islamic principles as determinants of the degree of satisfaction with the built environment, as the main goal of this study, therefore, it involves variables that should be used as means of data collection as well as in analysis.
2. Testing of the above points should be through a method which allows the researcher to develop an instrument which deals with the wide variety of pilgrims' characteristics.
3. The instrument selected should be based on the large number of pilgrim populations so that generalisation could be achieved.
4. The research method must consider the limit of research time, the duration of the event (pilgrimage) which is in the form of a short visit, the cost involved, and the availability of resources.

5.2.4 Choosing a Data Collection Method

Selecting the data collection method depends on the type of study, the determinant sample size, cost, time and accessibility between the researcher and the population concerned.

Prescott-Clarke, Atkins and Clemens ⁸ discuss the three most commonly used methods in tenant satisfaction surveys: 1) Self completion form (mainly as postal surveys), 2) Telephone surveys and 3) Face to face interview surveys.

In regard to this study it was decided that the third method and in particular the schedule interview questionnaire is the most appropriate for data collection for the following reasons:

1. Although the postal survey is considered to be an inexpensive method and allows the respondents time to think about their answers ⁹, the study deals with a population considered as temporary residents.
2. The shortage of telephone services and the different pilgrims languages involved (languages barriers) make it impossible to do a telephone survey.

“Telephone surveys of tenant satisfaction are not advisable as they would give a substantial proportion of the tenants no chance to express their view” ¹⁰

3. The study involves a wide range of satisfaction aspects to be examined which will be more easily explained by direct interviewing than the other approaches.

⁸ Prescott-Clarke, Atkins and Clemens (1993), *Tenant Feedback: A step-by-Step Guide to Tenant Satisfaction Surveys*. Department of the Environment, HMSO Publications Centre, PO Box 276 London, SW8 5DT. Pp. 29-33.

⁹ Prescott-Clarke, Atkins and Clemens (1993). *OP.Cit* P. 29.

¹⁰ Prescott-Clarke, Atkins and Clemens (1993). *OP.Cit* P. 31.

4. The interview offers more control over the participation of the required sample than the other data collection methods.

“The appropriate person can be more easily identified, and the interviewer can ensure that it is this person who gives the responses” ¹¹

5. The face to face interviews allow a higher response rate than the other types, they, therefore, allow more generalisation.

“Generally (but not always) a higher response rate is achieved (with face to face interviews) than with most other methods, and there is thus less risk of bias” ¹²

5.3 Sample Design

5.3.1 Determinant of Population Size

The statistical data concerning the population size was obtained from two main resources: First, population of previous years obtained from the ministry of *Hajj* and *Awqaf* (Pilgrimage), which show that the number of pilgrims in the last five years was as follows:

1. (1991 AD / 1411 AH) = 864,132 Pilgrims.
2. (1992 AD / 1412 AH) = 619,415 Pilgrims.
3. (1993 AD / 1413 AH) = 837,622 Pilgrims.
4. (1994 AD / 1414 AH) = 995,611 Pilgrims.
5. (1995 AD / 1415 AH) = 964,522 Pilgrims ¹³.

¹¹ Prescott-Clarke, Atkins and Clemens (1993). OP.Cit P. 31.

¹² Prescott-Clarke, Atkins and Clemens (1993). OP.Cit P. 31.

¹³ Unpublished report ministry of *Hajj* (Pilgrimage).

These statistics represent the pilgrims coming through the National Establishment of Pilgrims Guides (NEPG) in al-Madina which does not include pilgrims from the Arabian Gulf countries and Yemen. Accordingly, the average annual population for the previous five years is approximately 856,260 pilgrims.

The second source of population was through NEPG which estimates the number of pilgrims for each country in the year of the survey (1996 AD / 1416 AH). This estimate is based on agreement with each country's pilgrim delegation who provide their expected approved number of pilgrims prior to the pilgrimage time. This number is proportionate to the population of each member country as agreed by the Organisation of United Islamic States. According to this estimate the total expected population for that year was 950,000 pilgrims.

The NEPG authorities argue that this number might be changed by plus or minus 50,000 pilgrims. Consequently, a decision was made to consider the total population size (TP) for this study as 1,000,000 pilgrims. The actual number of visitors to the city which was counted from the housing permission committee after the completion of the *Hajj*, was 971,421 pilgrims, which is nearly the same as the agreed total population of the survey.

5.3.2 Sample Size

The sample size is based on the researchers standards for the type of sample, the degree of accuracy necessary for validity and the amount of variation within population. Thus as the sample size increases, the precision of results increases (Kane¹⁴). The sample size of this study, was determined by adapting a method developed by Krejcie and Moragan¹⁵, which was based on a formula that had been approved by the National Education Association, USA. The formula reads as the following :

¹⁴ Kane, E.(1987) OP.Cit. P. 94.

¹⁵ Krejcie and Morgan (1970), "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 30, Pp. 607-610.

$$S = X^2 NP (1-P) / d^2 (N-1) + X^2 P (1-P) \quad \text{where}$$

S = required sample size

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N = the population size

P = the population proportion (assumed to be 0.50 since this would provide the maximum sample size)

d = the degree of accuracy expressed as a proportion (0.05).

Based on this formula Krejcie and Morgan (1970) constructed a table and a diagram that show the required sample size that the researcher should consider in a certain representative population. (Table 5.1 And Fig 5.1).

This formula has been used recently by researchers such as al-Abdulmunim, (1995) and Barhamain (1997) involved in studying the pilgrimage to Makkah.

Applying the above formula to this study, based on the expected population of pilgrims of one million, gives us the sample size ($S = 384$ Pilgrims). However, the researcher expected that 80 % of the questionnaires would be completed due to the limited time that a visit to the city will take, especially considering that its purpose is religious rather than touristic, where the people may have more flexible time for answering the questionnaire. Therefore, the decision was made to increase the sample size by 20% as a safety factor (384×1.2) which resulted in a sample size for pilgrims with a safety factor (SWS) of 460 Pilgrims.

5.3.3 Sampling Technique

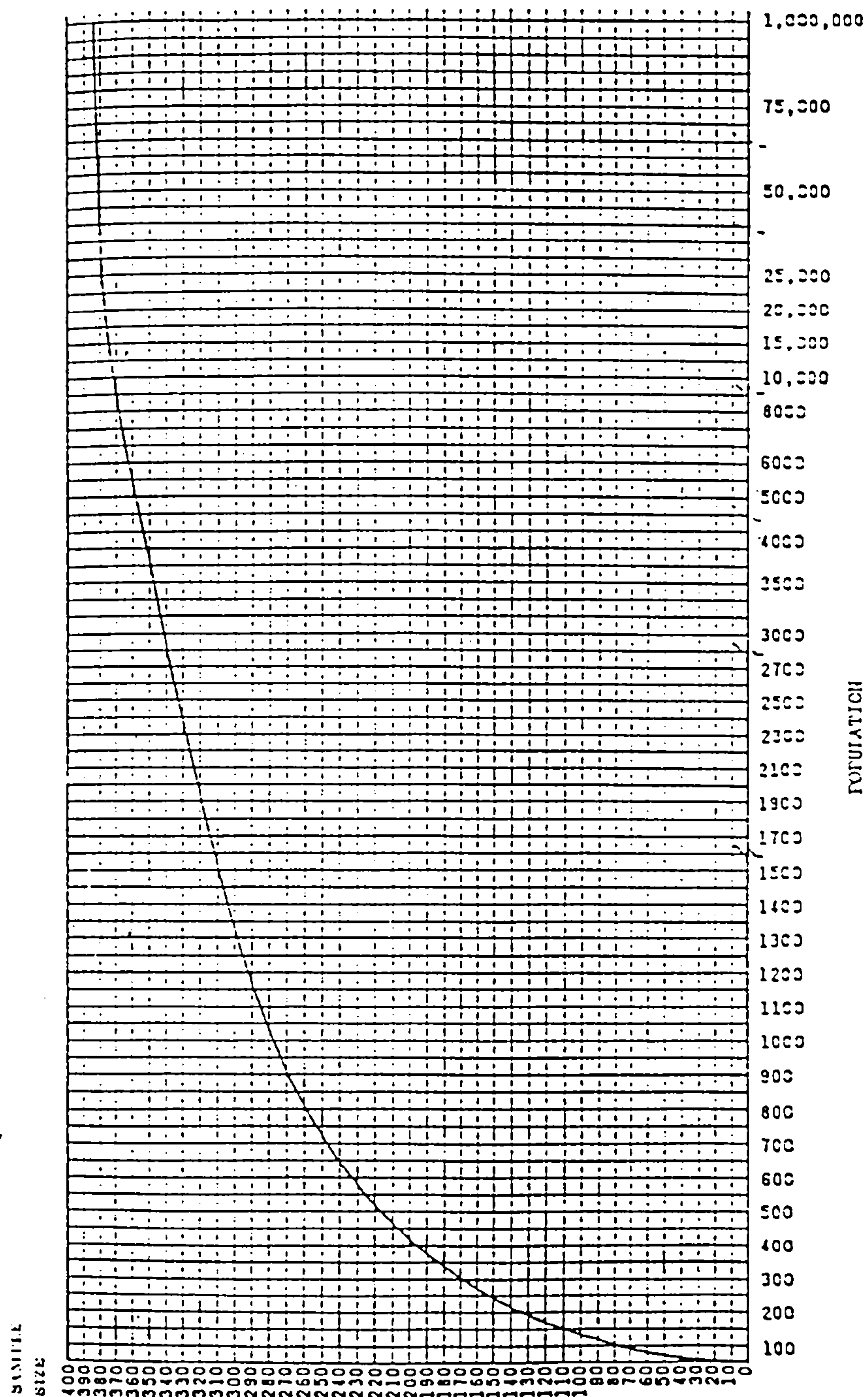
The aim of sampling is to obtain a few cases for study from the total number, in order to understand the characteristics of the total population. Most of the literature divides the sampling techniques into probability sampling and non-probability sampling. In the following we will discuss briefly these two types of sampling:

Table 5.1 Determining the Sample Size from a Given Population

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Source: Krejcie and Morgan (1970), "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 30, Pp. 607-610.

Fig 5.1: Relationship Between Sample Size and Total Population



Source: Krejcie and Morgan (1970), "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 30, Pp. 607-610.

5.3.3.1 Probability sampling

This is based on giving population units (people, place and time) a chance of being selected and a known probability of selection. This type of sampling has four formats:

1. Simple Random : where each member of the population has an equal chance of being selected by first obtaining a list for all the members, then selecting the sample size from this list according to random numbers. The main disadvantage of this technique is that it would result in large costs and time, for locating the selected sample.
2. Systematic sampling which starts with determining the necessary sample size then the first item will be picked arbitrarily from a list of names or numbered items then every fifth name, for example, until the size of the sample needed is reached.
3. Stratified random: which is used when the study involves groups with different characteristics. First the population should be divided into strata and then random samples taken from each stratum or group.
4. Cluster sampling: which is a sampling method used when it is too difficult or expensive to get a list of all the members in the population due to geographical dispersion. The population is divided into geographical clusters then a sub-sample of each cluster is made to come up with the total sample size ¹⁶.

5.3.3.2 Non-probability Sampling

This is where the probability that a person or item will be chosen is not known. The two forms of non-probability sampling are as follows:

¹⁶ Kane, E.(1987) OP.Cit Pp 90-93.

1. Convenience sampling: which is selecting anyone who happens to be available for answering the question of the survey. This method may carry a greater risk of biases in the sample.
2. Quota sampling : which starts with determining the important characteristics of a particular research population and the percentage of the sample reflecting the same percentage of certain population type ¹⁷.

5.3.4 Chosen Sampling Methods

The selection of the sample should depend on the aim of the survey, the characteristics of population and sources available for both money and time. In the case of the pilgrimage, although the population is of the same religion and has the same purpose for their visit, they come from different parts of the world.

As mentioned, one of the main aims of this research is to test the hypothesis, that Islamic principles are the main determinant for creating a satisfactory Islamic built environment. Therefore, the test should involve all parts of the Islamic world which is very wide and beyond the survey sources and the researcher's individual ability. The only way that this examination exists is in the case of the pilgrimage that this research is focused on. In this respect we can argue that those pilgrims are actually a good sample of all Moslems from all parts of the world who come in accordance with a certain agreed percentage from each country which is based on the proportion of Moslems within that country.

Consequently, pilgrims who visit al-Madina are actually a quota sampling of all Moslems. However, if we would like to maintain our goal of still having that sample as representative of all Muslim built environments, the same percentage should be applied to calculate the pilgrims from the Moslems population, (the primarily sample). In this respect, the quota sampling method was chosen at first, based on the actual percentage of pilgrims with similar characteristics.

¹⁷ Kane, E.(1987) OP.Cit Pp 93-94.

Burgess¹⁸ suggests that in a situation where different groups are involved, it is fundamental to work with all parties in order to avoid accusations of bias and to prevent the research report being considered biased.

Investigating the characteristics of pilgrims shows that they share one religion but come with several-languages from different geographical areas and nationalities. Pilgrims come from more than 130 countries where their numbers range from 1 person from Jamaica up to 198,000 from Indonesia¹⁹. Therefore, taking a sample from each nationality is not feasible because it is time consuming to search for representatives of each nationality.

Consequently, pilgrims were first grouped in terms of a representative language then each group was further divided into subgroups based on geographical area and one nationality of each (mostly the one with the highest population in the subgroup) was selected as representative of that subgroup language and area. Sample size of each division was obtained based on the percentage of the subgroup to the total pilgrim population with the condition that the total sample size be within the determinant sample size.

Accordingly, the pilgrims were divided into six main language groups (those who represent more than 5% of the total population) as follows:

1. Arabic language group is 219,463 pilgrims which represent approximately 22 % of all pilgrims.
2. Urdu language is 223,422 pilgrims counting 22.34 % of the total pilgrims.
3. Indonesian language group is 247,000 pilgrims representing 24.7 % of the expected pilgrims population.
4. Hausa language group is 86,628 pilgrims representing 8.54 % of the total pilgrims.

¹⁸ Burgess (1984) *In The Field: A Sourcebook And Field Manual*. London: Unwin.

¹⁹ The total pilgrims number and the number of Pilgrims for each nationality in the following were According to unpublished list for the pilgrims estimated number in the year of the survey, obtained from "Al Adela" The National Pilgrimage Guide ets in Al Madina, Ministry of *Hajj*.

5. Persian language group is 67,000 pilgrims counting 6.7 % of the pilgrims population.

6. Turkish language group is 70,000 pilgrims representing 7 % of the pilgrims.

The total number within the above main language groups is 912,313 pilgrims which represents 91.23 % of the total expected number of pilgrims.

Although, that is considered a good representation, a decision was made to add the two most common international languages (English and French) for three reasons:

1. To increase the above representative percentage.
2. To give people who speak other languages than the six main languages a chance to be selected within the sample.
3. Because it was noticed that the six languages geographically covered only two continents, Asia and Africa, thereby incorporating the two international languages with the other geographical areas of the world in Europe, North America, South America and Australia.

The expected pilgrims from those who originally speak English and French and those who use them as a second language and at the same time are not among the main language group are 55,000 pilgrims and 32,000 pilgrims respectively.

Classification of the language group according to the subgroup of geographical areas was based on grouping countries which resulted in thirteen language-geographical area subgroups. Each of these thirteen subgroups contained a number of nationalities that were more than 5% of the total population. Considering all the nationalities would be very cost and time consuming, therefore nationalities with the highest population within the subgroup were selected as a representative for the required sample, as follows:

1. Arabic- North East Africa, with a total expected population of 71,638 pilgrims which contains mainly Egyptian (60,000 pilgrims), Sudanese (9,000 pilgrims), and Somali (438 pilgrims). Egyptian nationality was selected as representative for this group with sample size of 34.

2. Arabic- North West Africa, which contains a total of 68,750 pilgrims mainly from Algeria (27,000 pilgrims), Morocco (27,000 pilgrims), Tunisia (8,250 pilgrims), Libya (5,000 pilgrims) and Mauritania (1,500 pilgrims). Algerians were chosen as representative of this subgroup with a sample size of 31.
3. Arabic- West Asia with 35,861 pilgrims from Syria (20,000 pilgrims), Lebanon (7,072 pilgrims), Jordan (5,000 pilgrims), Palestine (3,500 pilgrims) and Iraq (289 pilgrims). A sample of 17 Syrian pilgrims were taken as representative of this sub group.
4. Arabic- South West Asia subgroup which involves the countries of the Arab Peninsula with a total expected population of 43,214 pilgrims, coming from Kingdom of Saudi Arabia (15,000 pilgrims), Oman (9,890 pilgrims), Yemen (6,000 pilgrims), Kuwait (4,877 pilgrims), Emirate (3,843 pilgrims), Bahrain (2,676 pilgrims) and Qatar (928 pilgrims). Oman was the representative nationality of this subgroup with a sample of 20.
5. Urdu- Middle Asia with a total of 112,422 pilgrims mainly from Pakistan (105,000 pilgrims), Afghanistan (7,000 pilgrims), and Tajikistan (422 pilgrims). The sample size is considered to be 52 pilgrims from Pakistan.
6. Urdu- South Asia contains a total of 81,000 pilgrims from India (75,000 pilgrims) and Sri Lanka (6 000 pilgrims). 37 Indian pilgrims were determined to represent this sup -group.
7. Urdu- South Asia subgroup from Bangladesh²⁰ with a total population of 30,000 pilgrims. A sample size of 14 were taken as representative of this category group.
8. Indonesian- East and South East Asia with a total of 247,000 pilgrims, which involves pilgrims from Indonesia (198,000 pilgrims), Malaysia (19,000 pilgrims), Thailand (18,000 pilgrims), China (6,500 pilgrims), Singapore (3,000 pilgrims), and The Philippines (2,500 pilgrims). Indonesians, who represent more than 80 % of this sub group, were selected as the representative nationality with a sample of 114 .

²⁰ Although, the Bangladesh, speak different language than Urdu, a bilingual interviewer who speak both languages, was recruited to carry out the interview of this group. Therefore, it has been consider as one of the Urdu subgroups as the Pakistan and India subgroups are the nearest to it in terms of cultural back ground.

9. Hausa- Middle, South and West Africa, with a total of 86,628 pilgrims mainly from Nigeria (70,000 pilgrims), therefore, Nigerian pilgrims were selected as the representative nationality for this sub group with a sample of 40 pilgrims.
10. Persian - Middle Asia Subgroup with a population of 67,000 pilgrims from Iran. 31 pilgrims were determined to represent this subgroup.
11. Turkish - North Asia subgroup with a population of 70,000 Pilgrims, from Turkey (60,000 Pilgrims), Uzbekistan (3,000 Pilgrims) and Azerbaijan (1,500 Pilgrims). A sample of 32 Turkish pilgrims represented this subgroup.
12. English as the first international language which pilgrims coming from Europe, North America, Australia and other parts of the world who use English as second language and are not within the above groups. The expected population as mentioned above is 55,114 Pilgrims. Those mainly came from the United Kingdom (8,835 pilgrims), USA (2,334 Pilgrims), and Australia (1,138 Pilgrims). A sample of 24 pilgrims of British nationality was selected as representative of this subgroup.
13. French as the second international language covered France and part of Africa with a total of 32,573 Pilgrims, mainly from Mali (3,000 pilgrims), Senegal (2,800 Pilgrims), France (2,346 pilgrims), and Western Sahara (1,498 Pilgrims). A sample of 14 pilgrims from Senegal was taken as representative of this subgroup.

Prior to the conducting of the survey, several offers were made to the representative nationalities delegation to discuss the purpose of the study and obtain a list of pilgrims addresses for each nationality for further determination of the sample location and characteristics. This Co-ordination resulted in the fact that samples could be taken from all the subgroups except two; the first was the Hausa -Middle South and West Africa subgroup where a decision was made for not allowing the pilgrims of this subgroup to attend that pilgrimage season due to problems of health and safety for other pilgrims and residents of Makkah and al-Madina. The second subgroup was the Persian Middle Asia Subgroup because the Iranian Delegation refused to allow their pilgrims to participate in answering the Survey questionnaire for what they describe as “political reasons”.

Neglecting the two subgroups would affect the total sample determined for all pilgrims. Therefore, a decision was made to divide the samples of the two subgroups (71 pilgrims) among the rest of the subgroups in proportion to their percentage from the total pilgrims. This decision maintained the total (460 sample size) especially when the Ministry of Pilgrims agreed to increase the pilgrims of other subgroups as substitutes for the Hausa subgroup.

The remaining representative nationalities sample sizes were adjusted after the omitting of the Hausa and Persian subgroups, thereby, the final required sample (FRS) for each are as follows: Egyptian (40 Pilgrims), Algerian (37 pilgrims), Syrian (20 Pilgrims), Omani (24 pilgrims), Pakistani (62 pilgrims), Indian (44 pilgrims), B ngali (16 pilgrims), Indonesian (135 pilgrims), Turkish (38 Pilgrims), British (28 pilgrims) and Senegalese (16 pilgrims). (Table 5.2).

The aim of the survey was not only to attempt to represent all the different pilgrim groups but also to reflect the distribution of the among the five main areas of al-Madina. Actually the division of the city in those five main areas was used by the Municipality and the Pilgrims Housing Committee who expected that a total of 1,600 building permit for housing the pilgrims would be issued that year (1996 AD / 1416 AH). These are divided among the area as follows:

- 1 The 1st Area which contains 228 permitted buildings including the two oldest districts of al-Anabea and al-Sulamania.
2. The 2nd Area is the central area around al-Haram which is cleared for the new development projects and contains only 5 permitted buildings.
3. The 3rd Area, which is from Abu Bakir Street to Prince Abdulmuhsen Street, contains 317 permitted buildings.
4. The 4th Area from Abu Bakir Street to King Abdulaziz Street contains 566 buildings.
5. The 5th Area from King Abdulaziz Street to Prince Abdulmuhsen Street contains 484 permitted buildings.

Table 5.2 Quota Sample Size Development and Respondent Rate

Language Group	Sub Group (SG)	Geographical Area	Represented Nationality	Total Expected Sub Group Population Size (TSGP)	% TSGP TP *	Sample Size (S)	Sample Size With 20% Safety factor (SWS)	Final Sample Size After Omitting of Hausa and Persian Group (FS)		
								Required (RFS)	Collected (CFS)**	Respondent Rate (%) (CFS/RFS)
1. Arabic	Arabic Africa	NE Africa	Egyptian	71638	7.16	28	34	40	39	97.5 %
		NW Africa	Algerian	68750	6.88	26	31	37	36	97.6 %
		W Asia	Syrian	35861	3.59	14	17	20	20	100 %
2. Urdu	Non Arabic Asia	SW Asia	Oman	43214	4.32	17	20	24	24	100 %
		Middle Asia	Pakistani	112422	11.24	43	52	62	62	100 %
		S Asia	Indian	81000	8.10	31	37	44	42	95.5 %
		S Asia	Bengali	30000	3.00	12	14	16	16	100 %
		E and SE Asia	Indonesian	247000	24.70	95	114	135	131	97.04 %
3. Indonesian	Non Arabic Asia	E and SE Asia	Indonesian	247000	24.70	95	114	135	131	97.04 %
4. Hausa	Non Arabic Africa	Middle, S and W Africa	Nigerian	85428	8.54	33	40	Omitted due to no attendees permissions (for a Health reason)		
5. Persian	Non Arabic Asia	Middle Asia	Iranian	67000	6.70	26	31	Omitted due to no co- operation (for a Political reason)		
6. Turkish	Non Arabic Asia	N Asia	Turkish	70000	7.00	27	32	38	37	97.37 %
7. English	International 1 Europe, America, and Australia	Europe, S and N America and Australia	British	55114	5.51	20	24	28	28	100 %
8. French	International 2	France and part of Africa	Senegal	32573	3.26	12	14	16	15	93.75 %
Total				1 000 000	100 %	384	460	460	450	97.83 %

* TP = Total expected Pilgrims Population

** CFC = Collected sample size which is suitable for analysis after omitting uncompleted (No. = 7) or unanswered (No. = 3) questionnaires

5.3.5 Sample Location

Involving all the 1,600 buildings in the survey was not feasible due to the cost and time. Therefore, a decision was made to conduct the survey in 80 buildings which represent 5 %, as a sample of the total building numbers. This percentage was considered reasonable to control the process of the survey, especially by knowing that the investigation shows that the number of rooms in the buildings range from 2 rooms for 19 pilgrims to 420 rooms for 2394 pilgrims. Actually most pilgrims consider their rooms as the unit of housing that they are concerned with most, due to the short time of their visit.

With respect to the final required sample of pilgrims in this survey ($FRS = 460$ pilgrims), each of 80 buildings should contain an average of 5 to 6 pilgrims from the (FRS) which is fair when considering the total capacity of the buildings. Due to the wide variety of population within the buildings, the range of representatives was modified to 4 to 7 instead of 5 to 6 pilgrims per building.

The division of the city into five areas by the Pilgrims Housing Permission Committee was adapted in this study. Therefore, the finding could be easily related and could be used by the city development authorities in the future. Yet the 1st and 2nd areas were combined due to the fact that we have only five buildings in the 2nd area. Therefore, we have four main categorical areas. A sample of buildings and the required final sample of pilgrims in all the representative nationalities for each of the four categorised main areas of the city was calculated within the limits of the total sample size of both pilgrims and buildings (Table 5.3). A list of addresses of buildings that house the pilgrims of representative nationalities was prepared for each of the four areas. Then a systematic sample for each nationality in each area was run from this. A final list of the addresses of all the 80 buildings was obtained using the same serial number that the Pilgrims Housing Committee were using as they were usually clearly visible on the sign plate beside the main entrance of the building which could be checked before starting the questionnaire process. Also, preparing the specific list of locations enhanced the

Table 5.3 Represented Sub Groups Sample Size and Selected Buildings Numbers Distribution in the Four Main Areas of Al Madina

Represented Nationality	Required Numbers of Buildings (RNB)		Sample Size Distribution in the Four Main Areas of Al Madina																					
	Required Final Sample Size (RFS)		1 st Area and 2 nd Area																					
			3 rd Area																					
			4 th Area																					
			5 th Area																					

co-ordination with the Pilgrims' Delegation as well as the local authorities. In these locations the required sample of pilgrims was randomly selected and interviewed.

5.4 Questionnaire Design

In order to fulfil the aims of the research, the design and selection of the survey questions was done according to the main finding of chapter four. Therefore, the three satisfaction models of the three levels of Islamic built environment (the accommodation, the neighbourhood, and the city) (see Appendix A) were used as instruments to generate the structure of the questionnaire (Appendix B). Because all the sample are Muslims and the questions concern Islamic Principles, we felt that there would be no lack of interest among the respondents.

Converse and Presser²¹ argue that writing a clear questionnaire requires special measures to cast questions in four important respects: simple language, common concepts, manageable tasks and widespread information. Also, Prescott-Clarke, Atkins and Clemens²² suggest that a good starting point in questionnaire design strategy is to draw up a list of topics that are to be covered. The list in this research was clearly defined by the aspects of satisfaction with the three levels of the Islamic built environment. Lewins²³, discusses the methodological issues surrounding questionnaires and argues that

“the main aim is to gather one or more of six types of information from respondents: 1) current behaviour, 2) past behaviour, 3) attitudes to issues involving high commitment, 4) attitudes to issues involving low commitment, 5) future behaviour, and 6) future attitudes”

²¹ Converse and Presser (1988) *Survey Questions. Quantitative Applications In The Social Sciences*, A sage University Paper Series, Beverly Hills, Newbury Park, London, New Delhi. P15.

²² Prescott-Clarke, Atkins and Clemens (1993). *OP.Cit* P. 54.

²³ Lewins, Frank (1992) *Social Science Methodology: A Brief But Critical Introduction*. South Melbourne, Australia: Macmillan, p. 62.

May²⁴ argues that a questionnaire measures some characteristics or opinions of respondents, depending upon its aims, its design and the number of people who are interviewed. In this respect he defines four types of survey: factual survey, attitudinal survey, social psychological survey, and explanatory survey.

5.4.1 Questionnaire Structure

The questionnaires of this survey started with a brief introduction which stated the aim and purpose of the survey and the method of answering the questions. Then the questionnaire was divided into four main sections (Appendix B):

5.4.1.1 (Section I) General Information

This section contains 10 questions in a short pre-coded form, which seek to gather factual information about the respondents and the characteristics of their residence. These questions were selected to create a good relationship between the interviewers and the respondents, as well as, to create an enthusiastic atmosphere among the respondents. The questions ask about the period of stay, type of residence and its components, and how the respondent arranged his accommodation. Also they seek to gather information concerning the connection between the respondents and al-Haram as the main purpose of their visiting the city. Furthermore, general questions involving behaviour such as ablutions, eating and washing of clothes were raised as introductory issues before moving to the main body of the questionnaire. The general information questions were designed giving the interviewee a ready-made list of the possible answers. This technique was used to minimise the time of the interview.

²⁴ May, Tim (1993) *Social Research: Issues, Methods, And Process*. Chapter 5 "The use and design of questionnaires". Buckingham, England; Philadelphia: Open University Press.

Questions such as, “Did you come to al-Madina alone or with other members of your family” were given selected answers from “alone” to “I came with more than three members of my family,” since the researcher expected that most of the pilgrims came with less than three of their family. Also, choices of answers to questions such as “How long do you intend to stay in al-Madina?” were given in weekly interval bands (without overlapping). Similarly questions relating to number of prayers that respondents attend in al-Haram were given a choice to a maximum of 5 prayers a day which reflects the written prayers each day.

5.4.1.2 (Section II) Degree of Satisfaction

This section involves the main body of the questionnaire which contains, as mentioned, satisfaction questions with the three levels of built environment.

A. Degree of satisfaction with the accommodation: which includes questions about the following aspects:

1. Location and accessibility
2. Exterior characteristics
3. Internal characteristics
4. Environmental conditions
5. Infrastructure and services
6. Socio-cultural environment
7. Economical condition
8. Aesthetic values.

B. Degree of satisfaction with the neighbourhood which includes question about the following aspects:

1. Location and accessibility
2. Internal characteristics
3. Roads and pedestrian walk-ways

4. Public facilities and services
5. Socio-cultural environment
6. Economic conditions
7. Aesthetic values.

C. Degree of satisfaction with the Prophet's City which includes question about the following aspects:

1. Accessibility
2. Internal characteristics
3. al-Haram
4. Roads and pedestrian walk-ways
5. Public facilities and services
6. Socio-cultural environment
7. Aesthetic values.

Each of questions about the main aspects of satisfaction was divided into the minor aspects of satisfaction as developed in the three models of Islamic built environment. It was meant to use the same format of aspects, whereby the sequence of the variables is more clear and self explanatory. Liz McCrossan²⁵ suggests using "a composite question" if identical questions have to be repeated about several related items.

The main aspects were emphasised and underlined, but at the same time the number of variables was continued in each of the three levels of satisfaction. This construction was used to keep the order in which questions would be asked or answered, as well as, a filter instruction which told the interviewer which question he should ask next. A summary question of the general feeling was asked after the questions about the three levels of satisfaction.

²⁵ Liz McCrossan (1991) *A Handbook For Interviewers: A Manual Of Social Survey Practice And Procedures On Structured Interviewing*, HMSO Publication Centre, London SW8 5DT. Pp. 31-32.

Prescott-Clarke, Atkins and Clemens ²⁶ suggest that the most widely used type of satisfaction scale in surveys is one that is intended to provide a direct measure of satisfaction with services or situations. They argue that the number of items on a scale varies-sometimes four, five, or occasionally more. Accordingly, five scale ranks were used in all the satisfaction questions which are: very satisfied, fairly satisfied, neither satisfied nor dissatisfied (acceptable), fairly dissatisfied and very dissatisfied. The five rank scale seems to work best in that it permits fine distinctions and is readily understood by pilgrims.

As in other questions each of the five categories of response was provided by a tick box with a pre-coded number, to minimise the time during the interview, as well as in the computing phase. A card prompt of the five point satisfaction scale was used to save time in the interview. Liz McCrossan ²⁷ argues that when the same running prompt is used for several different questions on the schedule, it is advisable to show the informant a card with the possible answers rather than reading out the categories of a running prompt.

5.4.1.3 (Section III) Comparison

Although none of the pilgrims live in the new construction development which surrounds al-Haram, the researcher tried to investigate their attitude toward this development which was partially completed by asking the informants two questions. The first question was an attempt to comparatively examine the general feeling toward both the buildings that they stay in now and the new development buildings, and which of them they think is the better style for al-Madina. This question acted as a filter question which directed the respondents to the following special question which investigated the reasons for the informant's reply to the first. A set of 7 forced choice answers was given to select the most important reasons for their choice.

²⁶ Prescott-Clarke, Atkins and Clemens (1993). OP.Cit P.61.

²⁷ Liz Mccrossan (1991)). OP.Cit P. 28.

5.4.1.4 (Section IV) Personal Information

The last question group deals with factual personal information for the purpose of the analysis. Therefore, to avoid any sort of caution from the respondents, questions on nationality, age, occupation, educational level, material status and income were the final parts of the questionnaire.

Prescott-Clarke, Atkins and Clemens²⁸ argue that these "classification questions" are important, as people's behaviour and attitudes often differs by such characteristics as age, sex and occupation. These question help to check that the sample does represent all types of population. They suggest putting such questions towards the end of the questionnaire, to ensure that the interviewer has established a more relaxed relationship with the respondent.

Finally, the respondents were given the opportunity to put any additional comments, which was the only open question, yet the interviewers were instructed to limit the time of this question, thereby, not affecting the time of the following interview.

5.5 Testing the questionnaire and pilot survey

The first draft of the questionnaire was developed six months before conducting the main survey. It was reviewed with the thesis supervisor at the University of Newcastle. The questionnaire at that stage was in open-end format which was quite lengthy. The second draft was an attempt to modify it in the form of close pre-coded questions to minimise the time needed for the interview. The questionnaire was translated into Arabic in the same format as the English questionnaire. To investigate the validity of the questionnaire it was discussed with some of the people involved in research and pilgrimage issues. Those include:

²⁸ Prescott-Clarke, Atkins and Clemens (1993). OP.Cit Pp. 66-67.

1. Dr. Sami Angawi (the former director of *Hajj* Research Centre in Saudi Arabia) on his visit to the University of Newcastle.
2. Dr. Basam Hakaim (the author of the book “Arabic-Islamic Cities : Building and Planning Principles”).
3. The late Dr. Abdel Kader Koshak (the previous Secretary General of Organisation of Islamic Capitals and City and the General Supervisor of the book “The Islamic Methodology for Architectural and Urban Design”).
4. Dr. Majdi Hariri the Director of the *Hajj* Research Centre in Makkah.
5. Mr Abdullah al-Faez the Deputy Governor of al-Madina and the General Supervisor of developing the central area of the city.
6. The Director and some of the higher staff of Islamic University in al-Madina.

The discussion with these people improved the questionnaire's content, by removing some questions, while incorporating other into the final version of the questionnaire. In addition to the valuable comments gained from discussing it with them, it was a good chance for the researcher to make an introduction to the purpose of the research to those who were interested and mostly involved in Islamic Architecture and pilgrimage housing.

The pre-testing stages of the questionnaire were carried out three months prior to the main survey (in Ramadan 1416 AH/ 1996) which also is considered the second important visitor season in the city. A pilot survey of the questionnaire was carried out by interviewing fifty visitors (40 Arabic and 10 English) exactly as they should be in the main survey in order to establish the time needed and to test the sequence and wording of the questions.

Results of the pre-tests revealed the following:

1. Length of interview ranged from 30 minutes for those who are of Arab nationalities (where the Arabic questionnaire was used) to 45 to 90 minutes for the English interview of non-Arabic visitors.
2. The time of interviewing sometimes interfered with the praying time.
3. The questionnaire seemed to be clear in both its meaning and sensible arrangement and produced a coherent flow.

4. The questionnaire should be in other languages so as to cover other nationalities, as well as reducing the length of interviews.
5. The research should be assisted by interview assistants who speak the same language as the interviewees.
6. Coding of the questionnaire is needed both for interviewer guidance and in the analysis stage.
7. The addresses of buildings where the interviewees live need to be selected in advance and co-ordination with the building owners or agents should be done for security purposes.

In view of the aforementioned results of the pre-tests, the questionnaire was modified. It appeared that the main problem of the questionnaire was one of language. Therefore, both translating the questionnaire to other languages and appointing assistant interviewers from the same nationalities to carry out the main survey needed to be done. Also, official letters from the local authorities are needed to permit the main survey. Furthermore, the location of the interview should be determined before starting the interview.

5.6 The Main Survey

5.6.1 Interview Preparation and Development

This mainly involved translation of the questionnaire which was carried out in the following stages:

1. First two plain forms having the questions' numbers, coding and order were prepared for the two writing directions; one for those who read from left to right (English, Indonesian, French, Hausa and Turkish) and one for those who read from right to left (Arabic, Urdu, Persian). Having the same format ensures that the interviewees are treated alike. It also facilitates the analysis process for the researcher who is familiar with only two of the languages (Arabic and English); this shows the advantage of not having the questionnaire in the open-ended design.

2. The second stage was the actual translation where students of the Islamic University in al-Madina from the representative nationalities other than Arabic and English were gathered in a meeting of six groups of two (All Students are familiar with the Arabic Language as the courses are taught in Arabic). Each student group was given a copy of the questionnaire in Arabic and English with the suitable plain questionnaire format. An introduction of the aim of the survey was given, then the questions were read by the researcher and written after translation in plain format by each pair of students. Typing the translated questionnaire was impossible due to the limits of the survey budget and unavailability of typewriters or word processors in those languages in al-Madina, therefore, students were asked to make their hand writing as clear as possible.

5.6.2 Interview Assistants Training

As recommended by the pilot survey results, there was a need for interview assistants mainly because the survey contained 8 language groups. In this respect, Prescott-Clarke, Atkins and Clemens²⁹ suggest if there are many non-English speakers, it is necessary to recruit bilingual interviewers to interview the subjects appropriately. Kane³⁰ believes that the chance of a more successful response occurs when the interviewee is close to the interviewers in class, sex, age and interests.

The students who assisted in translating the questionnaires were selected as interviewer assistants for three reasons:

1. They were from same nationalities as the representative subgroup which would enhance the participation of the visitors who would feel more secure and convinced that the survey is for academic purposes and for the benefit of developing the Prophet's City.

²⁹ Prescott-Clarke, Atkins and Clemens (1993). OP.Cit P.85.

³⁰ Kane, E.(1987) OP.Cit P.68.

2. The aim and the real problem to be studied had already been explained to the students during the translation process.
3. The researcher at that time noticed that the students were interested in the subject and showed some degree of enthusiasm.
4. Although the translated questionnaires are written in clear hand writing, it will be clearest for the students who wrote them which will speed up the time of the interviewing.
5. Although the students are non-Saudi, they are familiar with the city especially the area around al-Haram.
6. At the time of the survey (the pilgrimage season) the university is closed, therefore, the students will have enough time to work in the day, evening and weekends as required.

Therefore, further meetings were held with the students before the conducting of the survey to explain the process of interview. The training included instruction of how to go about contacting the respondents, how to introduce oneself and the questionnaire, how to record the answer, how to explain questions, if necessary, and how to record interviewee's comments. The interviewers were split up into assignments where the sample addresses were sorted into groups and issued to interviewers in the time that had been stated each day before the interview. The researcher was involved in the Arabic and English interviewing while the students were responsible for other group languages. The students were provided with a copy of an official letter that was obtained from the local *Amirate* approving the carrying out of the survey. Also, they were instructed to carry the university student identification card and provided with telephone number to be contacted in case of any emergency. Completed questionnaires were to be handed to the organiser after each session.

5.6.3 Interview Time Schedule

As mentioned, the validity of the survey depends on ensuring that it is conducted in the pilgrimage season of the year when the visitors are at the maximum number according to total population size. Actually, the schedule of the interviews was based on the chart

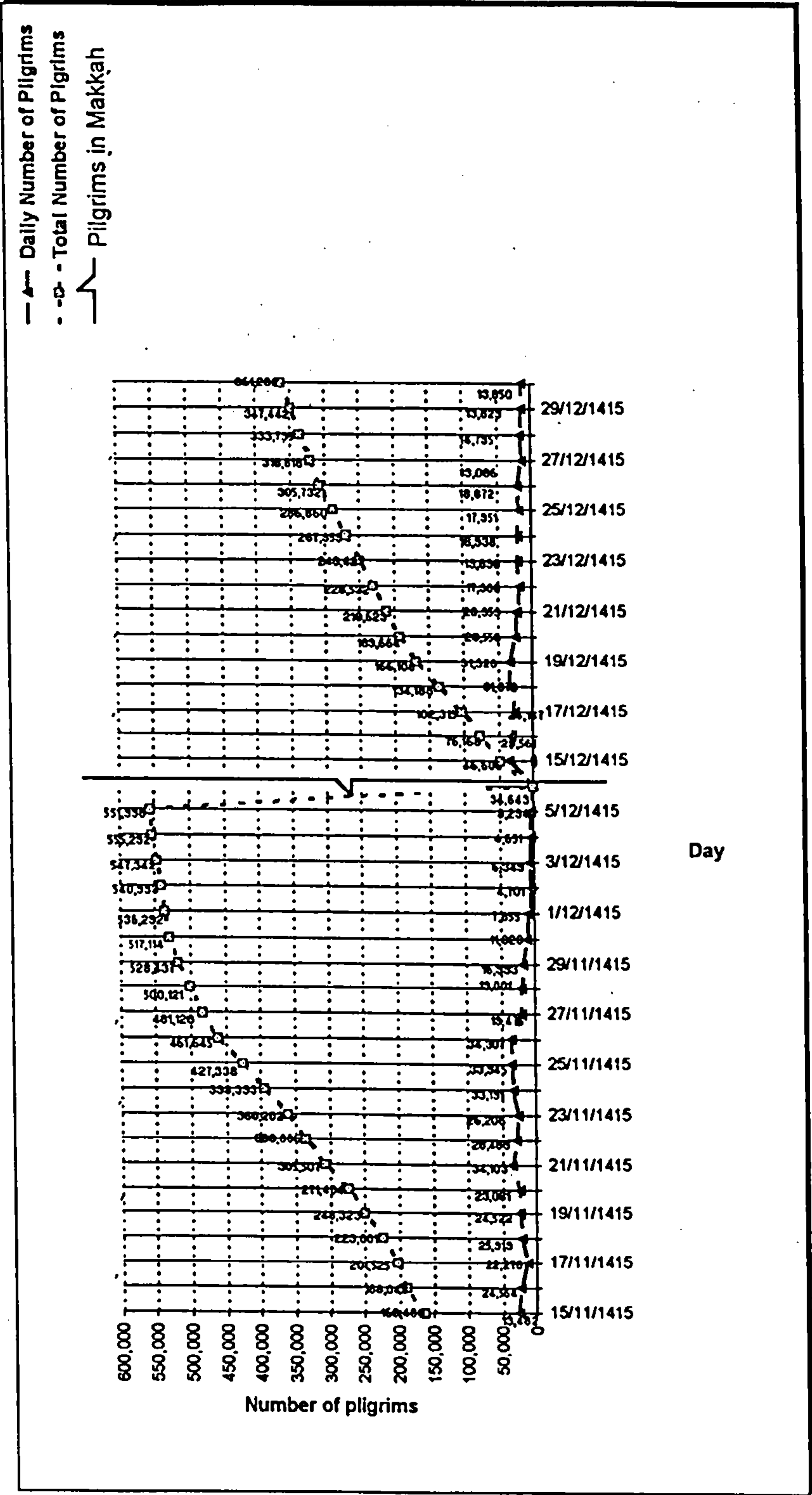
of daily visitors coming to al-Madina in 1995 (which seems to be typical for the pilgrimage season each year). That chart (Fig 5.2) shows that the maximum daily arrivals were on 28th of Dhu'l-Qada (16th April) and on the 26th of Dhu'l-Hajja (13th May). Having those two days in the middle of two week periods (the survey was estimated to take one month) resulted in considering the main survey schedule to be in the following stages:

1. First stage: Before the pilgrimage days, starting from 9th of April 1996 AD / 21st of Dhu'l-Qada 1416 AH to the 22nd of April 1996 AD / 5th of Dhu'l-Hajja 1416 AH.
2. Second stage: During the pilgrimage days stage, when the pilgrims move to Makkah for the *Hajj* starting from the 23rd of April 1996 AD / 6th of Dhu'l-Hajja 1416 AH up to 7th of May 1996 AD / 10th of Dhu'l-Hajja 1416 AH, will be a resting time for the interview assistants and the collected answer questionnaires will be briefly checked to get an idea of the degree of success that has been achieved in the first stage and to underline any mistakes that are observed, thereby avoiding these in the final stage.
3. Third stage: start after the finishing of *Hajj* rituals when Pilgrims who did not visit the city in the first pilgrimage season start moving from Makkah to al-Madina. This stage started from 8th of May 1996 AD / 11th of Dhu'l-Hajja 1416 AH / to 22nd of May 1996 AD / 5th of Muharram 1417 AH.

Within the interview days, three times were selected to contact the respondents:

1. Morning time from 10 am to 12 noon to make sure the pilgrims had awakened and had their breakfast and ending at 12 noon to allow the pilgrims to make their ablutions and be ready for the afternoon (*Thouhr*) prayer.
2. Afternoon time from 4.30 p.m. after the pilgrims had their lunch, the afternoon rest and finished their *Asr* prayer, and ended at 6.30 pm to allow the pilgrims to perform the *Maghrab* prayer.
3. After *Maghrib* prayer time from 7.30 pm to 8.30 pm, which is the time between the *Maghrib* prayer and *Asha'* prayer. The time after that was considered to be dinner and sleeping time of the pilgrims and the interviewers.

Fig 5.2: Daily Arrivals and Total Visitors Coming to Al Madina in 1995



Source: (Adapted) from the pilgrims housing permits committee yearly report (1995), unpublished p.31

5.7 Method of Analysis

5.7.1 Units of Analysis

Choosing the analysis method depends on the aim of the research and the data that is to be collected. Analysis in its broad meaning is further investigated not in the field but within the data obtained in the field work. Lewins³¹ argues that the best way of understanding “analysis” is to regard it as a process in which the methodological principles of research are applied to specific pieces of research. In other words, we can view analysis as a systematic and critical scrutiny of the assumptions behind the various parts of a piece of research and of their implementation.

Since this research is mainly concerned with the issue of satisfaction with the built environment, it contains like most architectural research two principle units: the space, “the built environment”, and the user, “the pilgrims”.

Hakim,³² considers that the three key units of analysis for any study are the principal social unit, space and time. He argues that the main social unit of analysis could be the individual or some social group or larger body such as an organisation or an even more abstract entity such as a religious group.

Considering time as the third unit of analysis involves increasing the cost of the research and the scope of its objectives. Also a deeper qualitative investigation would result, which has been excluded as a main approach for this research. Therefore, the time was determined by selecting the interview schedule in the previous chapter. To understand the analysis and findings of the research, clarification of data characteristics is needed as the first stage.

³¹ Lewins, Frank (1992) *Social Science Methodology: A Brief But Critical Introduction*. South Melbourne, Australia: Macmillan.

³² Hakim, C. (1987) *Research Design*. London: Unwin Hyman)

Selecting a method of investigating the characteristics of data collected depends on the unit of analysis involved. In this research, the quantitative interview was the main method applied to test both the characteristics of pilgrims and the built environment. It was selected as a suitable method in terms of time available to interview the respondents and thus know their characteristics and their attitude toward their environment. Yet, questions related to specific characteristics of the built environment might not be well explained by the pilgrims either because of lack of experience in the architecture elements or because of the short duration of their stay. Also including such questions would increase the interview time. Therefore, two methods were used to investigate the accommodation characteristic: firstly, through statistical analysis of the accommodation and, secondly, by visual analysis.

5.7.2 Method of Statistical Analysis

This involves the analysis process that was used to analyse the data collected through the questionnaire. This process can be divided into two main stages: first, the questionnaire checking and manual tabulation, and the second stage, the computer analysis of the data.

5.7.2.1 First Stage: Questionnaire Checking and Manual Tabulation

During the field work, questionnaires were collected on a daily basis and preliminary results showed that interviewers succeeded in completing 457 interviews out of the target sample (460). However, a manual check of the returned questionnaires showed that 7 were not suitable for analysis because they were only partially completed due to an unwillingness of some interviewees or the need to stop the interview because of the interruption by praying or leaving time. Therefore, 450 interviews were selected as main data for analysis. The pre-coded system applied in the questionnaire format helped the researcher in checking and tabulating the questionnaires, especially since he is not familiar with 6 out of the 8 languages of the questionnaire.

The data of the 450 interviews were then tabulated according to their numerical code on a manual worksheet giving each code an identified colour. The objectives of the manual tabulation are as follows:

1. Although the questionnaires were sent back to Newcastle, the manual tabulation work sheets were carried by the researcher by hand to reduce the risk of losing the main data.
2. The coding and colouring system that was applied gave the researcher the beginning of a clear understanding of the data components and an idea of the relationship between the variables, while some of it was of interest for further investigation.
3. Also, the colouring system facilitated the data computing process (a total of 76,950 answers for the 450 questionnaires) both in speed and accuracy.

5.7.2.2 Second Stage: Computer Analysis of the Data

To accomplish the analysis task, SPSS as the most commonly recommended statistical package for social sciences, was used to present the data tabulation and statistical analysis. The frequency and percentage distribution of responses, and their mean score (average) were calculated in a descriptive and comparative way to test the variables of the accommodation, neighbourhood and city. Cross-tabulation was mainly used to discover and test the relationship and the effect of attitudinal differences between the dependent variables (satisfaction aspects) and independent variables (age, occupation, educational, marital and monthly income). Moreover, a satisfaction index was computed to determine the variables which contributed to the degree of satisfaction by assigning the following weights to each of the response categories, +1.00 for “very satisfied + fairly satisfied” or “satisfactory”; 0.00 for “neither satisfied nor dissatisfied”; and - 1.00 for “fairly dissatisfied + very dissatisfied” or “unsatisfactory”. Awotona³³ argues that the index of the degree of satisfaction is the difference between the number for the “satisfactory” category and that for the “unsatisfactory”.

³³ Awotona. A. (1988), *The Perception of Housing Conditions in Nigeria by the Urban Poor*. HABITATINTL. Vol.12. No. 2, pp. 75-96, 1988. Pergamon Press Plc, Oxford. United Kingdom.

Therefore, we can arrive at the following formula to Measure the satisfaction index for any variable X :

$$STI (X) = \frac{(\text{v.s} + \text{f.s} \times 1.00)}{100} + \frac{(\text{v.dis-s} + \text{fairly dis-s} \times -1.00)}{100}$$

Thus if we take the respondents response to the question on the degree of satisfaction with the accommodations accessibility to al-Haram

$$STI (X2) = \frac{(\text{22.9} + \text{68.7} \times 1.00)}{100} + \frac{(\text{5.8} + \text{2.4} \times -1.00)}{100} = + 0.834$$

This means that there were 83.4% more respondents who rated the variable “satisfactory” than those who rated it as “unsatisfactory”.

5.8 Summary

As the quantitative method was used in data collection, sampling, and later on at the analysis stage, the archival method was used in determining the aspects of the questionnaire through the documentary revision. The observation of the researcher participating in the interview as a sort of qualitative method was used which enabled him to notice the behaviour patterns of the respondents. This helped the researcher to elaborate the quantitative analysis by qualitative statements. Also, visual instruments were used to clarify the characteristics of the accommodation .

The sample size of the survey, as calculated based on the characteristic of the pilgrims (language and geographical area), had the aim of having a spread among the different nationalities. Even in the limited time available to conduct the survey 450, out of 460 interviews were completed (response rate = 97.83 %). Questions were contained in four sections: the central information as an introduction, the degree of satisfaction with the three level of the built environment (the accommodation, the neighbourhood and the city) as the main body of the survey, a comparison section between the existing housing and the new development projects near al-Haram, and finally the questionnaire was ended by the personal information section. The questions were designed in pre-

coded closed format to minimise the time required in interviewing as well as at the analysis stage. Then the questionnaire was tested in a pilot survey which showed mainly that it should be carried out in languages other than English and Arabic. Islamic University students were involved both in translating the questionnaire into six other languages and working as interview assistants. Several meetings were held to train the students and provide them with the interview procedure and schedule prior to the main survey. The schedule of the interview was based on the daily coming of the pilgrims from Makkah as well as their daily life without interfering with the praying, eating or sleeping time of the respondents.

CHAPTER 6 Data Characteristics

6.1 Introduction

Chapter five considered the method that was applied to obtain the data for this study. This chapter aims to clarify the main features of the data. It first investigates the data characteristic for

a) the space, through study the characteristic and architectural observation of 40 selected buildings; and

b) the user, by discussing the personal and general information about the pilgrims.

Furthermore, the contribution of each variable to the degree of satisfaction of the respondents with their housing environment is tested.

6.2 Characteristics of the Data

6.2.1 Characteristics of the Built Environment

As an architect and urban planner, the researcher felt that the best way to obtain information about the built environment is to record it visually through pictures. The emphasis of this method was at the accommodation level for four reasons:

1. The accommodation was the actual location of interview.
2. It seems that accommodation is the most important level that a person is concerned with, particularly when his experience of living in the environment is for a duration as short as for pilgrims.
3. Neighbourhood and city levels had already been discussed using statistics and graphics in chapters 3.
4. The limitations of time and budget for the research.

Therefore, 40 buildings out of the 80 (50%) that had been chosen randomly as locations for the interviews were selected proportionately according to the five main areas of the city that they represent¹. Investigating the characteristic of the sample buildings involved statistical and visual analysis of their main features.

6.2.1.1 Statistical Analysis of the General Accommodation Characteristics

Two sources of information were used to carry out this statistical analysis:

1. Data obtained from the computer sheets of the Pilgrims Housing Permit Committee (PHPC), which involves the building number, the area (district) number, the permit number, the number of storeys, the number of pilgrims, the number of rooms, and the sleeping area.²
2. The large architectural blue print of the buildings from the archive files of the PHPC. We were able to collect very important information related to building type, building use, number of kitchens, area of kitchens, number of toilets, and area of toilets.

The SPSS computer program for Windows 96 was used to compute the frequencies distribution, means and median of each of these characteristics at five levels: 1) the building in general, 2) the residential storey, 3) the room, 4) the kitchen, and 5) the toilet. The analysis focused on comparing the changes of these variables in terms of building type as well as the effect of the distance of the building from al-Haram (or the districts in which the building was located in).

¹ These 40 building accommodate 229 pilgrims (50.89% of the sample of the pilgrims)

² During the interview, each interviewer was asked to quote the building permit number that appeared on the front door of the building in the first page of the questionnaire that has been carried out in that building. This helped the researcher to identify the data of the interview and to connect it with the collected documentary data.

6.2.1.1.1 Building Characteristics in General

Pilgrimage seasons are considered as investment time for the building owners, and most of the buildings around al-Haram are used for the pilgrims' accommodation. The layouts of these buildings could be classified into two styles. First, the hotel style was originally designed on the basis of individual rooms served by a toilet and sometimes a small kitchenette. Second, the apartment style which was originally designed as an apartment consisting of a number of rooms sharing a number of toilets and a kitchen. Regardless of the original plan both styles were mostly rented on an individual room basis. The apartment style represented 80 % of the sample whereas the hotel style, which seems to be only recently utilised, was only 20% (Table 6.1).

Table 6.1 Characteristics of the Building in General for the Hotel style and Apartment style
(Mean and Median)

Characteristics	Building Style			
	hotel Style (N = 8 buildings)		apartment Style (N = 32 buildings)	
	Mean	Median	Mean	Median
1. Building use type*	1.88	2.00	1.66	2.00
2. Number of pilgrims	434.00	376.50	347.22	301.50
3. Total sleeping area (m ²)	1089.6	953.26	867.00	743.44
4. Number of Storeys	7.13	6.50	5.59	5.00
5. Number of residential storeys	6.19	6.00	5.09	4.75
6. Number of rooms**	53.75	48.00	48.03	45.50
7. Number of toilets	55.00	46.50	22.69	20.00
8. Total building toilets area (m ²)	255.17	243.77	111.01	87.56
9. Number of kitchens	22.63	19.00	9.63	8.50
10. Total building kitchen area (m ²)	91.63	76.05	97.70	84.00
11. Building distance from Al Haram***	2.00	2.00	2.06	2.00

* Ratings are based on 1 for "Residential building" and 2 for Commercial / Residential building

** The number referred to all types of rooms which are used as pilgrims' sleeping space.

*** The ratings are based on 1 for "close = less than 500 m", 2 for "neither = 500 to 750 m" and 3 for "far = more than 750 m"

Data shows that the hotel style layout characterises the buildings located near al-Haram (less than 500 m) or far from al-Haram (more than 750 m), while most of the buildings in between are apartment style. This could be due to the demolition of the buildings within the first ring road for new development which has been mostly in hotel style. This clearing out created the transformation of the following layers of buildings which were originally built in the apartment style³ by opening up the apartments, and renting each room individually to the pilgrims.

Actually, the demolishing of the old hotels resulted in more demand for this style, which, therefore, led to the building of more of this type in the area furthest from al-Haram (the third layer). The new hotel style was designed mainly for pilgrim use and resulted from the individual room renting system. Also as it is considered to be more economically efficient. Most of the buildings (60% of the sample) have less than 50 rooms, while only 5 % of the sample have more than 100 rooms. On the other hand 65 % of the building have a total sleeping area of less than 1000 m². The number of rooms is greater in the hotel style than in the apartment style (means = 53.75 and 48.03 room/ building respectively).

The majority of the buildings (92.5%) have less than 50 toilets. Also, 42 % of the building have a total toilet area less than 100 m². Likewise, half of the buildings have less than 10 kitchens, where 59.5% of the buildings contain a total kitchen area less than 100 m². The mean number of toilets and kitchens are much larger in the hotel style (more than double the number) than in the apartments style. However, as will be noticed, characteristics of the kitchens in the hotel style are considered as small kitchenettes for each room rather than big or standard kitchens.

It is not surprising that commercial activities in the form of shops are combined with residential use as the dominant type of building in areas where the pilgrims live. The residential/ commercial building land use (70 % of the sample) encourages the pilgrims to rent the building. It is actually due to the fact that the main goal of their trip to al-Madina is religious, hence they do not have time to travel to shopping areas relatively

³ Apartment style were designed for the citizens' use

far from their accommodation. This is reflected in the fact that the regulation that applies in the new neighbourhood schemes, where shops are not permitted in non-commercial streets (less than 30 m wide), cannot be applied in the area near al-Haram where there can be shops in very narrow pedestrian alleys. The commercial activities tend to be both small corner shops and large premises occupying the ground floor and the mezzanine level. The residential area occupies the upper floors, mainly, with a number of rooms, toilets and kitchens.

Most of the buildings (65% of the sample) are from 4 to 6 storeys⁴, however, hotel style buildings are higher than the apartment style buildings (the means are 7.13 and 5.59 respectively).

75 % of the sample buildings house more than 200 people; 25 % even have an occupancy level above 500 pilgrims⁵. Table 6.1 shows that the occupancy is much higher in the hotel style than the apartment style. Actually, the occupancy for both styles is greater in the 3rd area (904 for hotel style and 474 pilgrims for apartment style) than in to other selected areas which are around 326 to 447 pilgrims for hotel style and 191 to 332 pilgrims for apartment style. This difference in occupancy might arise from the difference in building height (the mean of number of storeys is 7.13 and 5.59 respectively)⁶. However, with the fixed ratio of sleeping area per pilgrim of 2.5 m², the building occupancy depends entirely on the available sleeping area within the building, (which will be discussed in the room characteristics).

6.2.1.1.2 General Characteristics of Residential Storeys

Although, the pilgrims were concerned with their room space rather than the entire building space, it is worth discussing the storey that they live on as an intermediate stage between the two levels of space. Because of the high occupancy of the building,

⁴ The sample buildings range from 3 to 12 storeys high.

⁵ The increase in occupancy, as we will see in Chapter 7, resulted in less convenience and adequacy of the services which were designed for a smaller number of users.

⁶ The maximum mean of number of storeys is in the 3rd area building which equals to 10 storeys

pilgrims might consider the storey space to be the accommodation which has access to the common service spaces that it contains⁷.

Table 6.2 Characteristics of the Residential Storeys for the Hotel style and Apartment style (Mean and Median)

Characteristics	Building Style			
	hotel Style (N = 8 buildings)		apartment Style (N = 32 buildings)	
	Mean	Median	Mean	Median
1. Number of residential storeys	6.19	6.00	5.09	4.75
2. Number of rooms per residential storey	8.58	9.41	8.39	8.11
3. Number of pilgrims per residential storey	75.85	82.72	67.34	56.43
4. Sleeping area per residential storey (m ²)	190.39	206.48	168.11	142.20
5. Number of toilets per residential storey	9.42	9.22	4.51	4.00
6. Number of Kitchen per residential storey	4.16	3.46	1.88	2.00

The sample buildings contain 236 floors, out of which 89.8% were for residential use. Only 22.5 % of the residential storeys consisted of less than 5 rooms per storey. We would expect that the hotel style would contain smaller rooms and thus more rooms than the apartment style, but data shows that the hotel and apartment styles have an approximate mean of 8.5 rooms per storey (Table 6.2). Therefore, the hotel style is distinguished by the layout of the building rather than the number of room on each floor. Most of the residential storeys house more than 50 pilgrims (65 %), where only 7.5 % have less than 25 people. More than half (57.5 %) of these storeys contain less than 5 toilets, however, the number of toilets is double in the residential floors of hotel style compared to the residential floors of apartment style buildings (mean = 9.42 and 4.51 toilet/ storey respectively). In regard to the number of kitchen, 80 % of the

⁷ Although, most of these storeys were originally divided into 2 to 4 apartments (especially in the Apartment style building) by keeping these apartments open to each other each apartment is not considered to be an individual space.

residential floors have less than 3 kitchens. Due to the use of small kitchenettes, the mean of the number of kitchen per storey is more in the hotel style (mean = 4.16) than in the apartment style (mean = 1.88).

6.2.1.1.3 General Characteristics of Rooms:

As a consequence of the layout of the building in the hotel style, which is characterised mainly by setting individual rooms along intermediate corridors, the number of rooms is larger than in the apartment style. The mean rooms per building are respectively 53.75 and 48.03 (Table 6.3). In comparison with the areas around al-Haram we notice that the sample buildings within the 3rd area contain the highest number of rooms per building (mean for hotel style = 64 rooms and for apartment style = 60.38 rooms per building).

Table 6.3 Characteristics of the Rooms for the Hotel style and Apartment style (Mean and Median)

Characteristics	Building Style			
	hotel Style (N = 8 buildings)		apartment Style (N = 32 buildings)	
	Mean	Median	Mean	Median
1. Number of rooms	53.75	48.00	48.03	45.50
2. Total sleeping area (m ²)	1089.6	953.26	867.00	743.44
3. Average room area (m ²)	19.74	18.30	17.66	16.73
4. Number of pilgrims per room	7.86	7.30	7.21	6.76
5. Sleeping area per pilgrim (m ²) (Standard = 2.5 m ²)	2.52	2.51	2.50	2.50

Generally, 67.5 % of the rooms have an average size less than 20 m². The study shows that only 2.5 % of the rooms have average area of 30 m² or more. Unexpectedly, the hotel style rooms are larger on average than the apartment style rooms. The means are 19.47 m² for the hotel style, but 17.66 m² for the apartment style. This demonstrated that the hotel style buildings were built not as hotels where the rooms usually are meant for one or two people, but they are here meant for larger groups. The increase

in room numbers is not a result of small average room sizes. It even indicates that the rooms within the 3rd area are larger (mean for hotel style = 35.16 and for apartment style = 19.52) than other areas around al-Haram. The smallest average room area is in the 1st and 2nd areas (mean for hotel style = 14.86 and for apartment style = 13.51) which is the oldest and nearest to al-Haram. This might be due to the increasing value of land closer to al-Haram. It might also be a result of changing the renting methods which depended in the past on the number of the rooms rather than in the number of pilgrims that the room can be allowed to accommodate. This depends on the sleeping area per pilgrim and the room size. The new regulations which state that each pilgrim should have a minimum of 2.5 m² as sleeping area, resulted in designing the building with larger rooms in the newer areas. In that way there will be a savings in building cost by reducing the number of partition walls and, at the same time, using these areas for sleeping. It is obvious that the new regulations encourage building larger rooms with higher occupancy per room (mean = 7.26 to 14.13 people/ room for hotel style in the 3rd, 4th and 5th areas compared with a mean of 5.84 people per room in the 1st and 2nd area) could result in privacy and safety problems in the new areas compared with the oldest parts. Therefore, the main reason of the new hotel style approach was for maximising the profit from renting the building. Table 6.3 shows that the 2.5 m² per pilgrim regulation was implemented in all buildings regardless of the location or building style but as a standard rather than a minimum.

This regulation was a result of different factors including: 1) the increase in the number of pilgrims, 2) the limit in the total sleeping area, especially in the area around al-Haram where the pilgrims like to live, 3) the affordability or capability of the pilgrims who are mostly from the low income group. As a result 70 % of the rooms are licensed to accommodate more than 6 people.

6.2.1.1.4 General Characteristics of Kitchens

The kitchen average area is very small compared with the number of users. The investigation showed that 73 % of the building kitchens are less than 10 m², at the same time, 80 % of the kitchens were for more than 20 people. Actually, this resulted from both the high occupancy rate of rooms and the larger number of rooms that each

kitchen serves. The data shows that 72.5 % of the kitchens serve more than 3 rooms. Consequently, 89.2 % of the pilgrims have less than 0.5 m² to be used as kitchen space for each of them.

Table 6.4 Characteristics of the Kitchen for the Hotel style and Apartment style (Mean and Median)

Characteristics	Building Style			
	hotel Style (N = 8 buildings)		apartment Style (N = 32 buildings)	
	Mean	Median	Mean	Median
1. Number of kitchen	22.63	19.00	9.63	8.50
2. Total kitchen area (m ²)	91.63	76.05	97.70	84.00
3. Average kitchen area (m ²)	20.89	3.46*	9.67	8.40
4. Number of pilgrims per kitchen	125.58	24.83*	41.88	30.33
5. Kitchen area per one pilgrim	0.26	0.22	0.32	0.28
6. Number of rooms per kitchen	18.97	3.44*	6.22	4.42

* The reason of the high difference between the mean and the median in the characteristics is that some of the buildings in the hotel style contain only one kitchen. Also, the tiny kitchenette in some of the buildings causes this difference between the mean and median area.

As mentioned hotel style kitchens range from small kitchenettes to one common kitchen or a canteen where the meals are prepared by a number of the building staff. The apartment style usually contained a number of kitchens where the meals were prepared by the pilgrims. Therefore, it was difficult to compare means of number of rooms per kitchen, average kitchen area and number of pilgrims per kitchen. This type of hotel style kitchen resulted in large differences in means and medians of such characteristics. However, there was not much difference in both style in terms of kitchen area per pilgrim; 0.26 m² of kitchen per pilgrim in hotel style and 0.34 m² of kitchen per pilgrim in the apartment style. Also, the means of total building kitchen area are 91.63 m² and 97.70 m² respectively (Table 6.4).

Distance from al-Haram has not much effect in the kitchen area per pilgrim for the apartment style. Yet, both the number of rooms per kitchen and number of pilgrims per kitchen are much larger in the 1st and 2nd area than in the area far from al-Haram.

6.2.1.1.5 Toilets General Characteristics

The toilet is a more private space than the kitchen and therefore, it is not likely to be shared. It is thus not much influenced by the area for each user. Toilets are rather more influenced by the number of pilgrims per toilet or the number of people who have the right to use the same toilet. The main reason is that, in Islam, it is forbidden for two people to use the toilet at same time, even though they are from the same family group. Yet it is important to investigate the general characteristics of the toilets to have a clear picture which gives us more understanding of the analysis of the respondent answers in the following chapters.

As discussed, the majority of buildings have less than 50 toilets. The majority of pilgrims (97.5%) are using a toilet used by more than 5 other people. Those who share the toilet with 10 other people are about 65 % of the sample. These circumstances delay the pilgrims from making their ablution in their accommodation and influences their degree of satisfaction with their toilets. Therefore, pilgrims used al-Haram public toilets, which are cleaner and well maintained.

On the other hand, the data shows that 90% of the toilets were designed to serve less than 3 rooms. This ratio could be considered good if those who live in these rooms number less than 6 people. Therefore, the problem arises from the high number of pilgrims per room. In regard to the toilet area per one pilgrim, data show that 67.5 % of the pilgrims have less than 0.5 m² as space for toilet.

Comparisons of the number of toilets in the two building styles indicates that the mean is much larger for hotel style (mean = 55 toilets) than the apartment style (mean = 22.69). Also, the toilet area per pilgrim is about double in the hotel style. The means are 0.68 m² per pilgrim and 0.39 m² per pilgrim respectively. The differences of these

two characters lead to a greater total toilet area in the hotel style (mean = 255.17 m²) than in the apartments (111.01 m²) (Table 6.5).

Table 6.5 Characteristics of the Toilets for the Hotel style and Apartment style (Mean and Median)

Characteristics	Building Style			
	hotel Style (N = 8 buildings)		apartment Style (N = 32 buildings)	
	Mean	Median	Mean	Median
1. Number of toilets	55.00	46.50	22.69	20.00
2. Total toilets area (m ²)	255.17	243.77	111.01	87.56
3. Average toilet area (m ²)	4.94	4.56	4.84	4.54
4. Number of pilgrims per toilet	8.28	7.48	15.96	15.16
5. Toilet area per one pilgrim	0.68	0.54	0.39	0.30
6. Number of rooms per toilet	1.08	1.00	2.20	2.15

Although, the number of pilgrims is higher in the hotel style, the differences in the number of toilets results in having fewer users per toilet in the hotel style than in the apartment style. The means of number of pilgrims per toilet are 8.25 people per toilet and 15.96 people per toilet respectively.

Toilets in the 1st, and 2nd area is much better than in areas far from al-Haram. Although, the number of toilets in the 3rd area is greater than in the 1st and 2nd area, the number of pilgrims per toilet is small and toilet area per pilgrim is high in the areas close to al-Haram. The mean of the number of pilgrims per toilet for apartment style is 12.25 pilgrims per toilet in the 1st and 2nd area, whereas it is from 15.38 to 18.12 pilgrims per toilet for other areas.

Although the average total size in the 1st and 2nd areas is high, the difference between the means is not so large. Therefore, we can say that the size of the toilets in the new areas has been as the old area, but the number of users for these toilets has been increased.

6.2.1.2 Visual Analysis of the Accommodation General Characteristics: An Architectural Observation

Visual analysis for the characteristics of each of the 40 selected buildings (see Appendix C) involved mainly an architectural observation of the following aspects:

1. Analysis of the building's layout.
2. Observation of the main reception area and the controlling management of the main entrance of the building
3. Observation of a typical bedroom area and its furniture.
4. Observation of the service space (kitchens and toilets) and equipment and its use.
5. Analysis of the building's external view in terms of the elevation design, type of opening and the principle material used for the facade.

As in Fig 6.1 and Appendix C, the visual analysis is illustrated by sketches rather than photographs for clarity as well as focusing on the element concerned. Plans of buildings were reduced and adapted from large blue-prints of architectural drawings that were obtained from the PHPC.

6.2.2 Characteristics of the Pilgrims

6.2.2.1 Personal Information

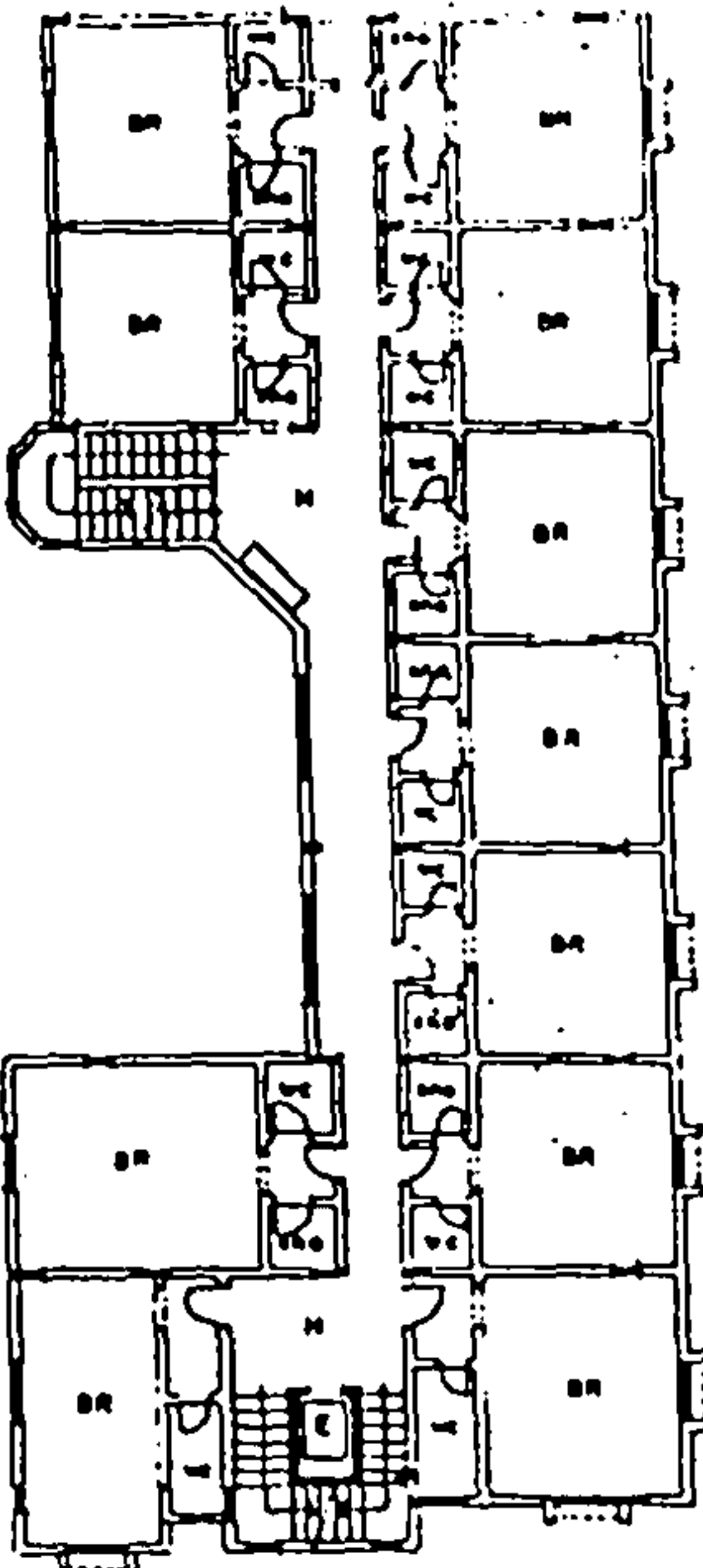
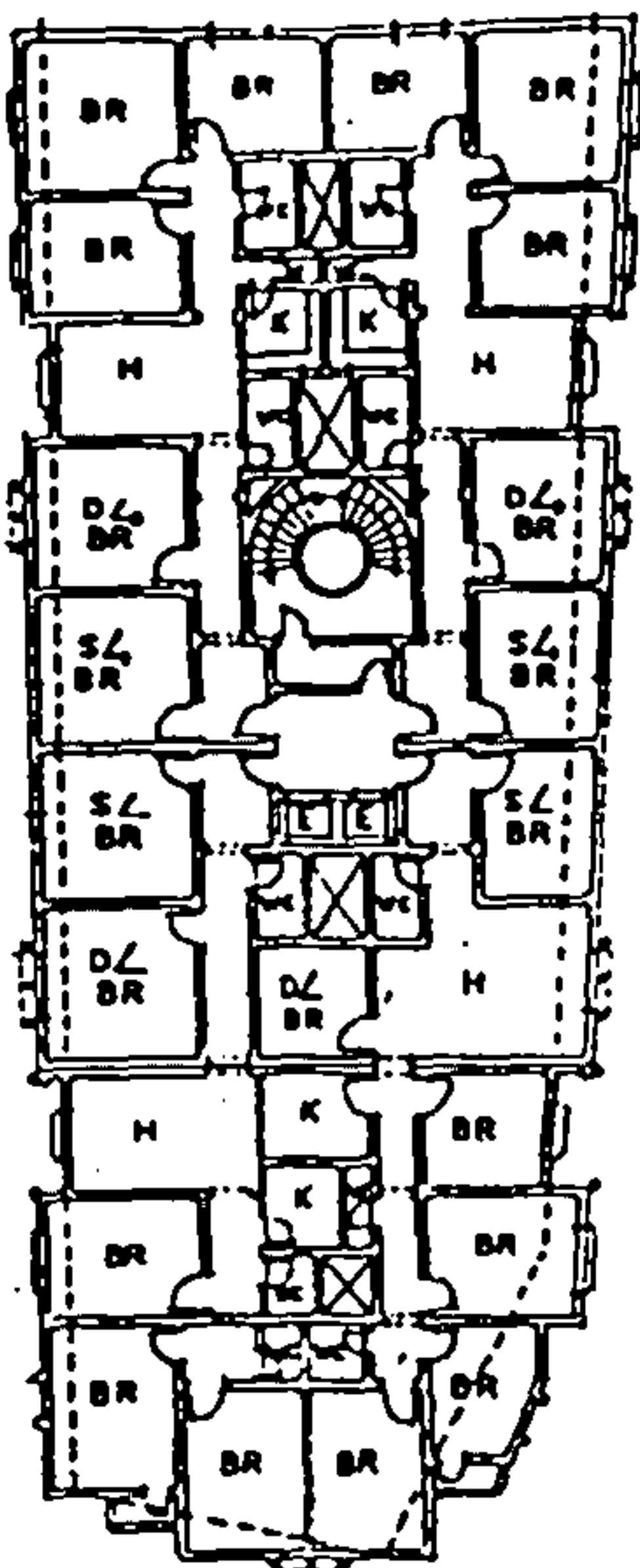
The interview contained some personal information for the purpose of analysis. This information gave us the first part of the characteristics of the sample (characteristics of the users) of the survey which indicated that :

1. The survey succeeded in getting a representative percentage required as a sample from most nationalities that attended the pilgrimage at that time according to their proportion within the total visitor numbers. The method of selection was applied to the main nationalities, with the exception of the Iranian

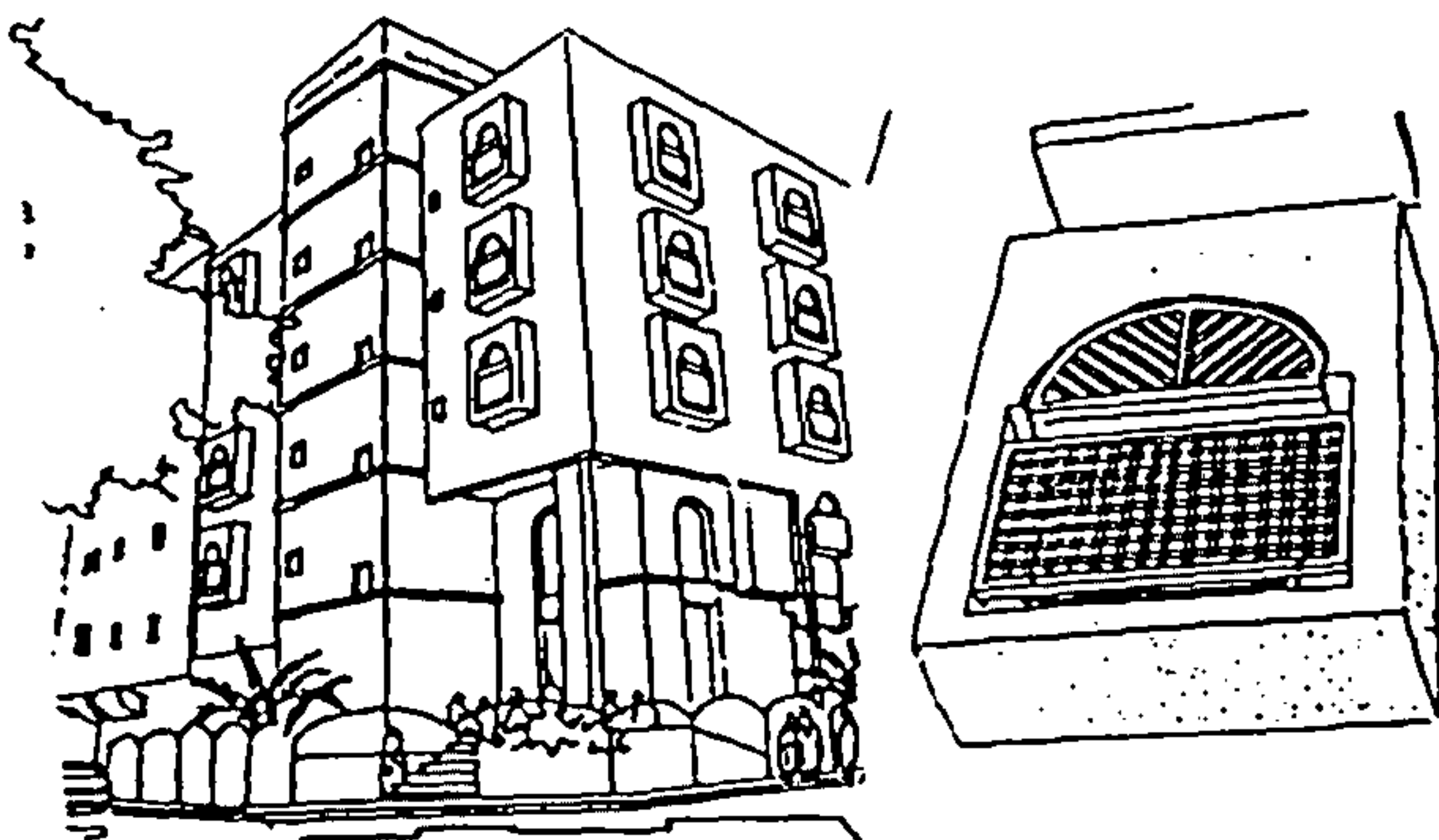
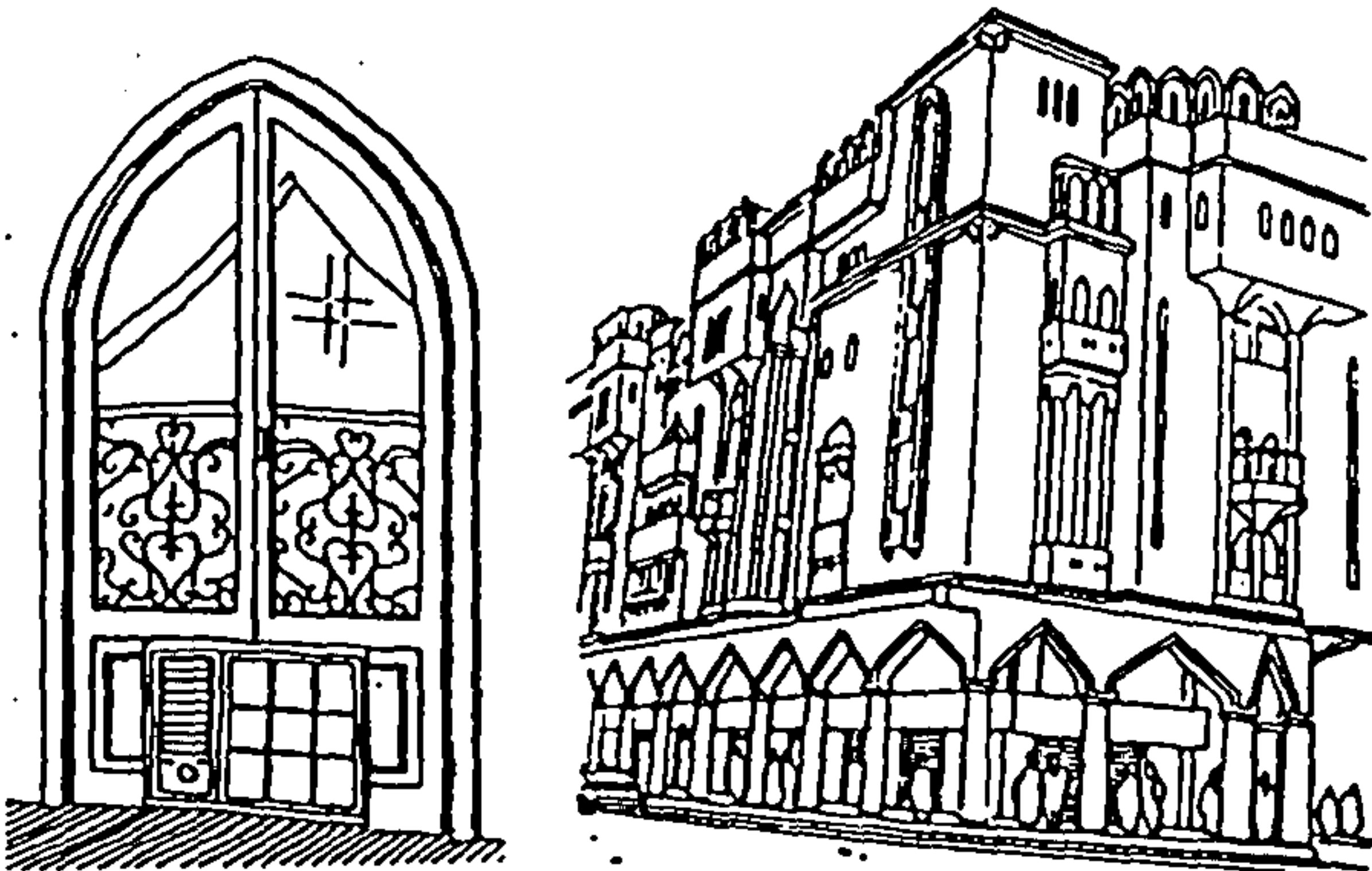
Fig 6.1: Visual Analysis of the Accommodation Main Architectural Aspect

Examples of Apartment style

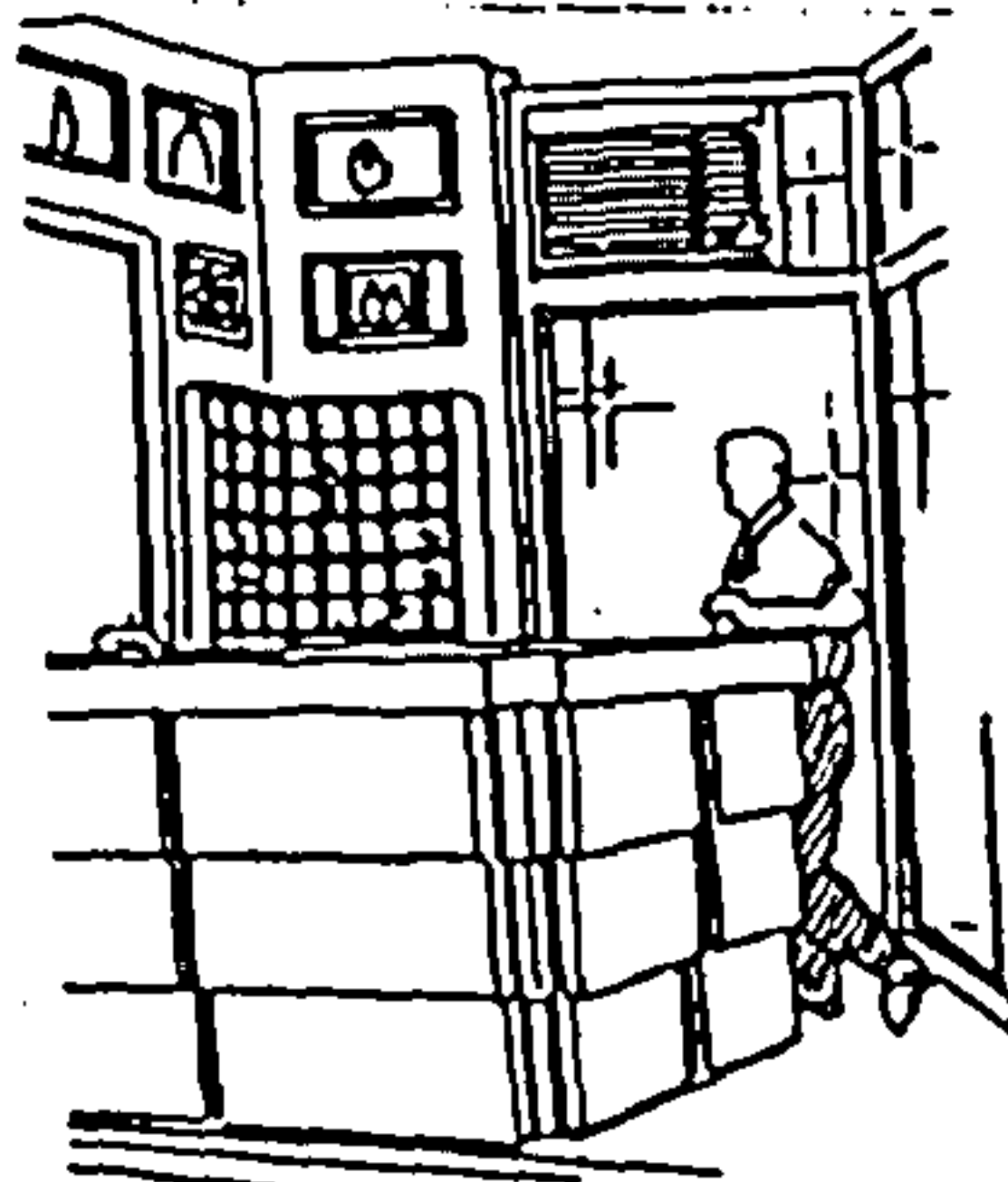
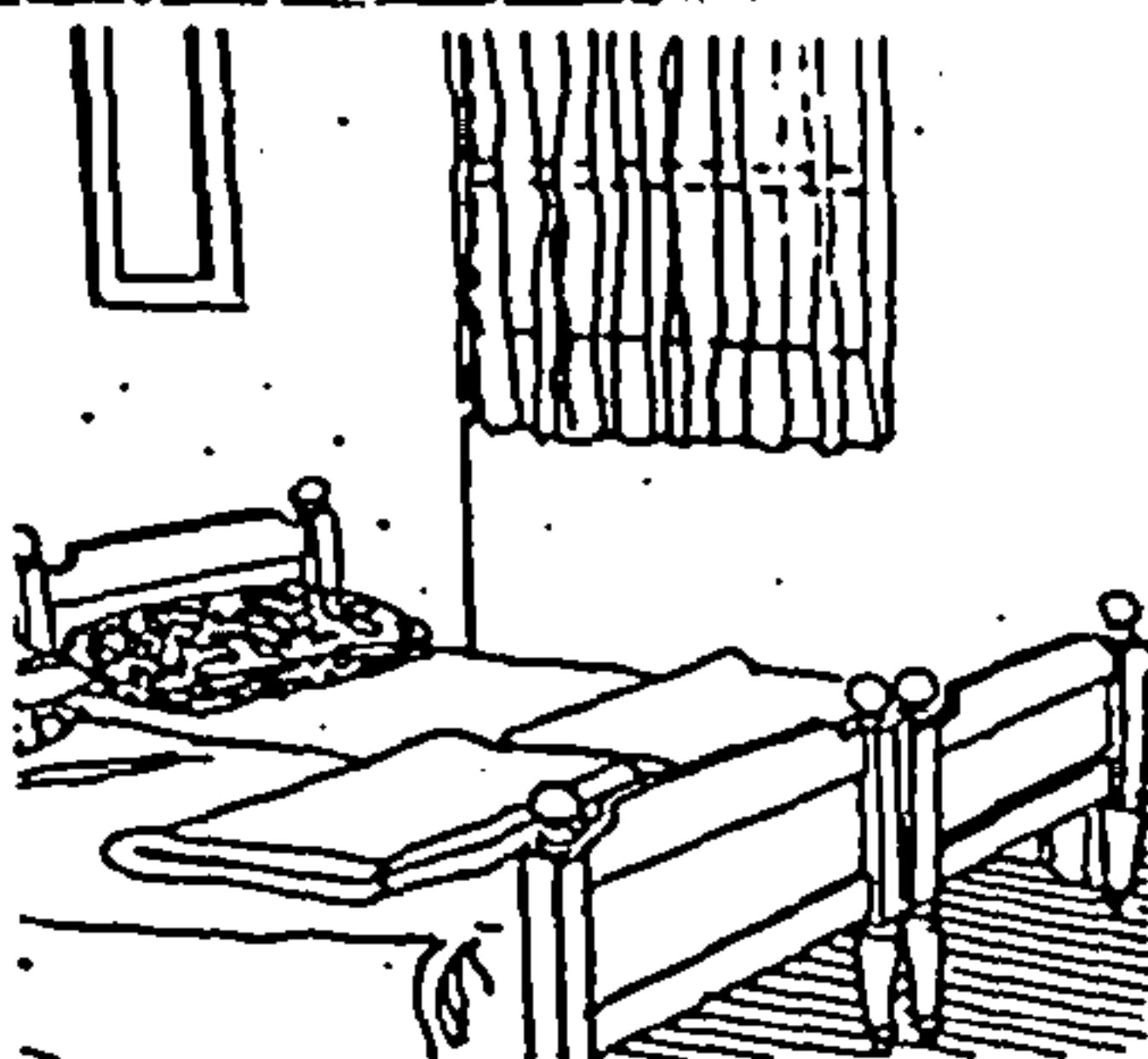
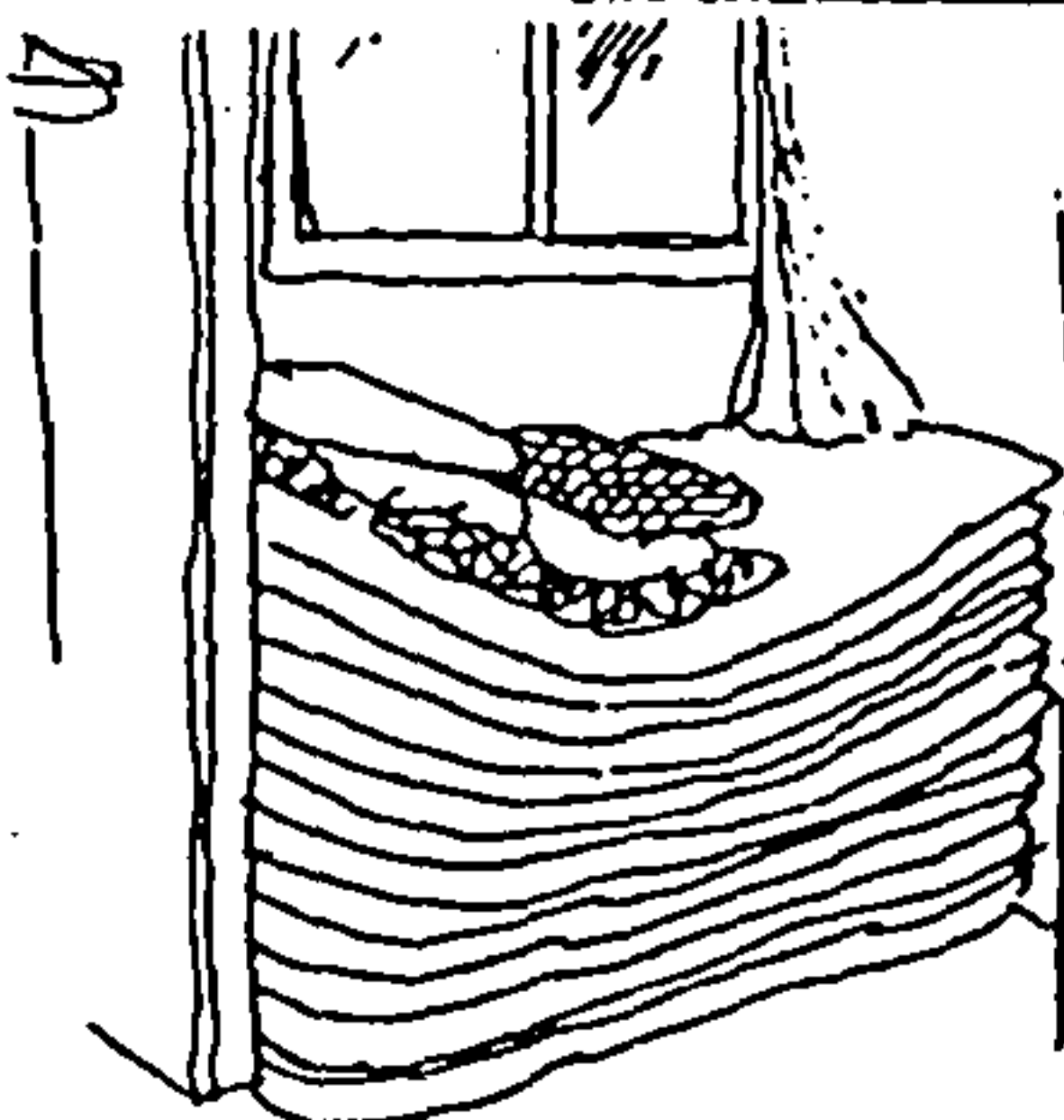
Examples of Hotel style



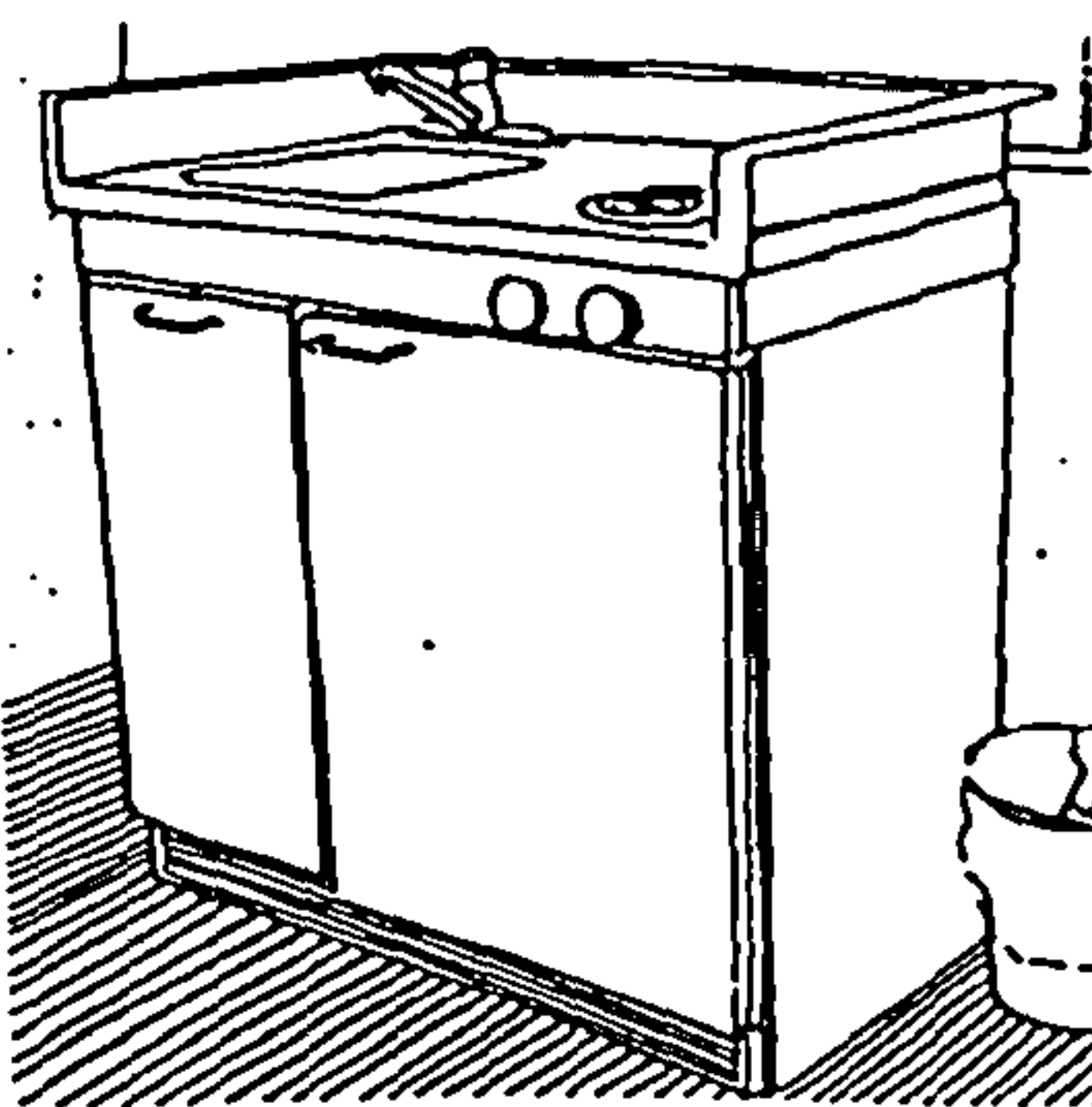
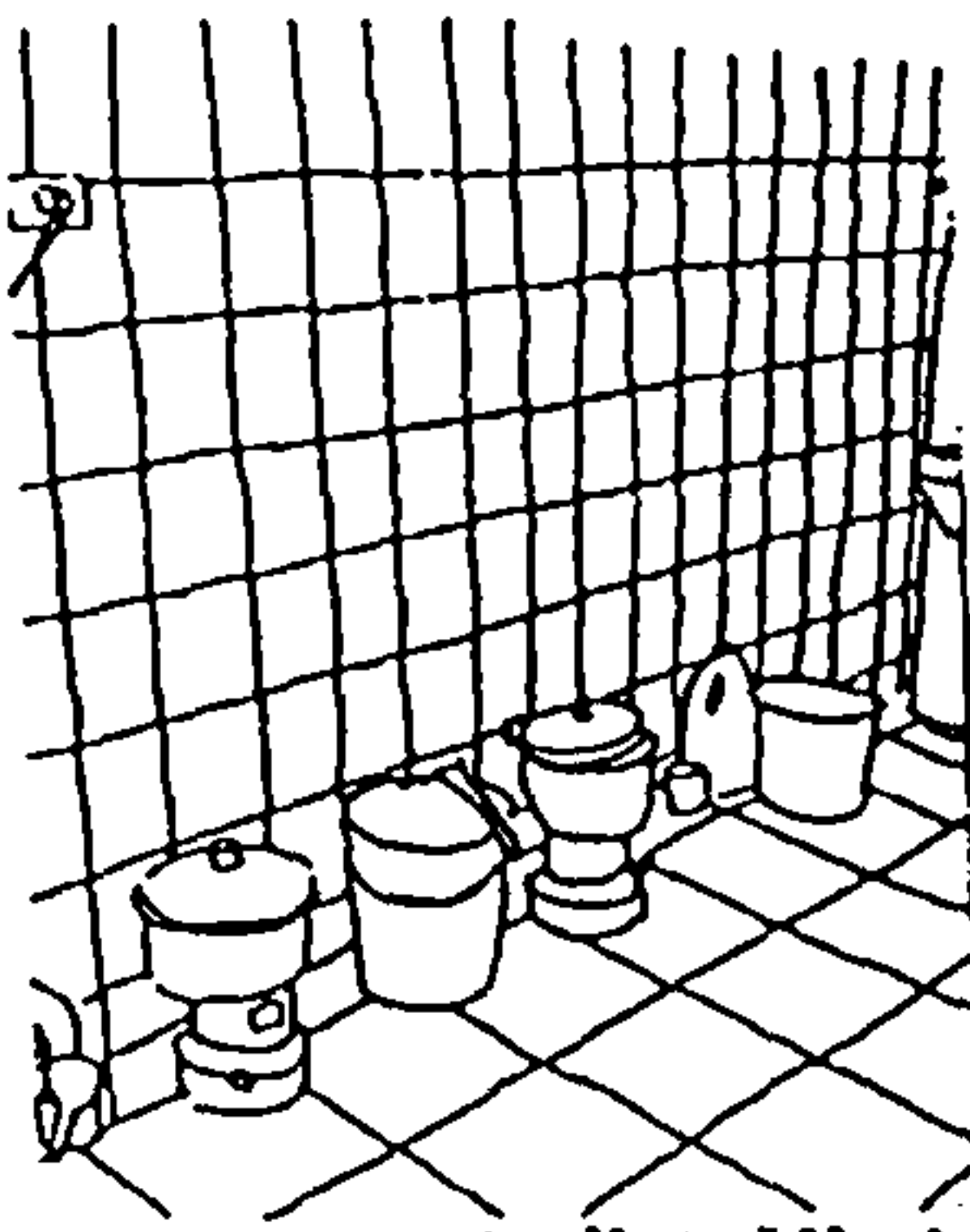
Plan



Exterior view and Openings



Reception area and Bedroom



Toilet, Kitchen and Dining

group, because of the difficulty that the interviewers faced in obtaining information for political reasons, and the non-Arabic African group due to the fact that they were not permitted to perform pilgrimage and visit the prophet city for health reasons. Accordingly, the collected sample (450 pilgrims) was divided in terms of nationalities into 39 Egyptian (8.67%), 36 Algerian (8.00%), 20 Syrian (4.44%), 24 Omani (5.34%), 62 Pakistani (13.78%), 42 Indian (9.33%), 16 Bangladeshi (3.56 %), 131 Indonesian (29.11%), 37 Turkish (8.22%), 28 British (6.22%) and 15 Senegalese (3.3%).

2. Most representatives (89.9%) were between twenty one and sixty years old. Those were divided; 6.2% were 21 to 30 years old, 38.4% were 31 to 40 years old, 27.1% were 41 to 50 years old, and a quarter of the sample (25.1%) were 51 to 60 years old.
3. 52.4% of the visitors were employees; but, over a quarter (26.7%) were retired. The third highest group (15.3%) represented in the sample were self - employed.
4. 32.9% of the visitors had a secondary education certificate or its equivalent. The second highest group were those who held a college certification or its equivalent. Those who had university degree or its equivalent were 15.6%.
5. A high percentage of the respondents (85.1%) were married. Single people were 13.8%, and very few (1.1%) were either widowed or divorced.
6. The monthly income for 53.2% of the visitors was less than 1,000 Saudi Riyals (SR). Another quarter (23.8%) were earning from over 1,000 to 2,500 SR. 12.2% of the sample had monthly income equivalent to more than 2,500 to 5,000 SR.

6.2.2.2 General information

Most pilgrims came as a group of two to four members of the same family (78.7%). This pattern of travelling could be related to economic or social factors such as being

secure. Most of the pilgrims try to stay in al-Madina to perform forty main prayers in the Prophet's Mosque because they believe that it will guarantee their entering Paradise in the hereafter. In order to perform those forty prayers, it is necessary to stay in the city at least eight days, as there are five prayers each day. This was very clear from the data of the survey which indicated that 86.7% of the sample intended to stay in al-Madina from eight to fourteen days. The intention of the pilgrims to perform their prayers in the Prophet's Mosque leads them to select their accommodation close to al-Haram. The central area around al-Haram became very crowded after the recent demolition of most of the buildings for the development project at the core of the city. As the project is not completed, it creates pressure in the other areas around the Prophet's Mosque, therefore, the occupation of each room is increased up to the standard of the 2.5 m² per pilgrim. Pilgrims (91.3%) were very disappointed since they lived mostly with more than three persons in each room. The increase of density also influences the adequacy of services in the buildings. The most essential services, where the visitors suffered from shortages, were the availability of a private kitchen and clothes washing facilities. Generally, pilgrims (46.9%) shared a common kitchen with others and they (86.9% of the sample) washed and dried their clothes in their rooms, in the kitchen or even outside their building.

6.3 Contribution of Variables to the Degree of Satisfaction with the Built Environment

The questionnaire involved 151 variables which were divided among the three scales of environment as 54 variables related to the accommodation, 47 variables for the neighbourhood, and 50 variables for the city. Therefore, we can say that all the three scales had similar numbers of variables.

In order to test the contribution of each variable to the degree of satisfaction of the respondents with their housing environment, indices of all the variables of the three scales of environment were calculated and arranged in their descending order of magnitude (Tables 6.6, 6.7, and 6.8). The tables shows that among all the respondents

Table 6.6 Rank- ordering of the Accommodation Satisfaction Indices

No.	Variables Description	STI
Type VHS variables (very high level of satisfaction $+1 \geq \text{STI} > +0.6$)		
X4	Accessibility to other Mosque	0.942
x1	Distance to Al Haram	0.884
X9	Distance to relative and friends	0.88
X10	Accessibility relative and friends	0.849
X2	Accessibility to Al Haram	0.834
X6	Accessibility to shopping	0.786
X5	Distance to shopping	0.758
X46	Safety and security	0.736
X3	Distance to other Mosque	0.718
X37	Residence drinking water fountains	0.691
X13	Building structure	0.678
X12	Accessibility to public transportation	0.618
X14	Height of the building	0.603
Type HS variables (high level of satisfaction $+0.6 \geq \text{STI} > +0.2$)		
X36	Residence water - cleanliness	0.587
X39	Electricity adequate	0.53
X11	Distance to public transportation	0.524
X29	Ventilation and air - conditioning	0.462
X42	Type of neighbours \ co -residents	0.458
X41	Social character of the building	0.431
X33	Exterior bad smell transmission	0.415
X31	Artificial light	0.403
X34	Residence water - adequate	0.372
X32	Exterior noise transmission	0.26
Type MS variables (medium level of satisfaction $+0.2 \geq \text{STI} > -0.2$)		
X35	Water system - convenient	0.182
X30	Natural light	0.180
X38	Sewage system - convenient	0.175
X51	Residence exterior appearance	0.145
X25	Sitting room orientation	0.06
X49	Services cost	0.051
X26	Guest room	0
X48	Residence renting cost	-0.044
X7	Distance to recreational facilities	-0.046
X8	Accessibility to recreational facilities	-0.056
X52	cleanliness of the residence	-0.078
X47	Entertainment facilities \ adequate	-0.089

Table 6.6 Rank- ordering of the Accommodation Satisfaction Indices
(continued)

No.	Variables Description	STI
Type LS variables (low level of satisfaction $-0.2 \geq STI > -0.6$)		
X20	Bathroom orientation	-0.24
X50	Residence interior	-0.293
X43	Visual privacy	-0.3
X44	Audible privacy	-0.396
X16	Layout of the residence	-0.402
X54	Residence general satisfaction	-0.411
X45	Inside privacy	-0.525
X18	Number of bedrooms	-0.556
X23	Sitting room size	-0.556
Type VLS variables (very low level of satisfaction $-0.6 \geq STI \geq -1$)		
X27	In - home equipment	-0.615
X28	Furniture	-0.631
X21	Kitchen size	-0.642
X53	Residence interior landscaping	-0.651
X40	Telephone adequate	-0.654
X22	Storage or closet	-0.695
X19	Number of bathrooms	-0.727
X24	Number of sitting rooms	-0.822
X15	Size of residence	-0.847
X17	Size of rooms	-0.851

Table 6.7 Rank- ordering of the Neighbourhood Satisfaction Indices

No.	Variables Description	STI
Type VHS variables (very high level of satisfaction $+1 \geq STI > +0.6$)		
X55	Distance to Al Haram	0.813
X56	Accessibility to Al Haram	0.778
X95	Neighbourhood Safety and security	0.775
X57	Distance to shopping	0.693
X58	Accessibility to shopping	0.663
Type HS variables (high level of satisfaction $+0.6 \geq STI > +0.2$)		
X68	Neighbourhood's shopping area size	0.582
X62	Accessibility to public transportation	0.498
X67	Number of mosques in the neighbourhood	0.456
X69	Neighbourhood's shopping area layout	0.447
X61	Distance to public transportation	0.445
X72	Neighbourhood's restaurants - adequate	0.405
X70	Neighbourhood's shops - adequate	0.377
X93	Neighbourhood Visual privacy	0.311
X66	Height of buildings in the neighbourhood	0.285
X65	Number of buildings in the neighbourhood	0.28
X71	Neighbourhood's shop prices - convenient	0.273
X63	Size of neighbourhood	0.244
X90	Neighbourhood's lighting	0.244
X64	Layout of the neighbourhood	0.238

Table 6.7 Rank- ordering of the Neighbourhood Satisfaction Indices
(continued)

No.	Variables Description	STI
Type MS variables (medium level of satisfaction $+0.2 \geq \text{STI} > -0.2$)		
X77	Neighbourhood's car t traffic	0.2
X98	Neighbourhood's appearance	0.125
X89	Neighbourhood's drinking water fountains	0.117
X75	Neighbourhood's roads layout	0.102
X96	Neighbourhood Entertainment facilities \ adequate	0.062
X97	Neighbourhood Entertainment facilities \ convenient	0.062
X76	Neighbourhood's roads safety	0.046
X92	Type of neighbours \ co -residents within the N.	0.005
X59	Distance to recreational facilities	-0.002
X99	Cleanliness of neighbourhood	-0.011
X100	Neighbourhood's landscaping	-0.069
X94	Neighbourhood Audible privacy	-0.075
X91	Neighbourhood Social character	-0.14
X85	Neighbourhood's public transportation facilities	-0.142
X78	Neighbourhood's car parking	-0.143
X60	Accessibility to recreational facilities	-0.16
X74	Neighbourhood's roads size	-0.18
Type LS variables (low level of satisfaction $-0.2 \geq \text{STI} > -0.6$)		
X80	Neighbourhood's pedestrian walk -way layout	-0.213
X88	Neighbourhood's public toilets	-0.262
X86	Neighbourhood's public telephones	-0.264
X82	Neighbourhood's roads pedestrian walk -way sep	-0.325
X79	Neighbourhood's pedestrian walk -way size	-0.36
X101	Neighbourhood general satisfaction	-0.413
X87	Neighbourhood's post office	-0.478
X73	Neighbourhood's clinic - adequate	-0.528
Type VLS variables (very low level of satisfaction $-0.6 \geq \text{STI} \geq -1$)		
X81	Neighbourhood's pedestrian walk -way shading	-0.643
X83	Neighbourhood's sitting area - adequate	-0.645
X84	Neighbourhood's sitting area - convenient	-0.7

Table 6.8 Rank- ordering of the City's Satisfaction Indices

No.	Variables Description	STI
Type VHS variables (very high level of satisfaction $+1 \geq \text{STI} > +0.6$)		
X119	Al Haram furniture	0.993
X120	Al Haram ventilation and air - conditioning	0.965
X122	Al Haram exterior noise Transmission	0.933
X126	Al Haram public toilets and ablution areas	0.922
X125	Al Haram safety and security	0.911
X151	City general satisfaction	0.847
X118	Al Haram structure	0.774
X123	Al Haram visual privacy	0.7
X145	The city safety and security	0.618
X104	The city visitors reception centre facilities	0.609

Table 6.8 Rank- ordering of the City's Satisfaction Indices (continued)

No.	Variables Description	STI
Type HS variables (high level of satisfaction $+0.6 \geq \text{STI} > +0.2$)		
X117	Al Haram activities	0.594
X102	Roads to the city	0.578
X110	City centre shopping area size	0.576
X109	Number of mosques in the city	0.542
X116	Al Haram size	0.522
X121	Al Haram natural light	0.508
X111	City centre shopping area layout	0.5
X103	The city airport services	0.462
X112	City centre shops - adequate	0.447
X143	The city lighting	0.431
X114	The city restaurants - adequate	0.427
X113	The city shop prices adequate	0.394
X108	Height of buildings in the city	0.385
X130	The city car traffic	0.32
X106	Layout of the city	0.311
X107	number of neighbourhoods in the city	0.307
X124	Al Haram audible privacy	0.28
X146	The city entertainment facilities \ adequate	0.273
X129	The city roads safety	0.242
X148	The city appearance	0.223
X105	Size of the city	0.222
X147	The city entertainment facilities \ convenient	0.211
X142	The city drinking water fountains	0.204
Type MS variables (medium level of satisfaction $+0.2 \geq \text{STI} > -0.2$)		
X128	The city roads layout	0.14
X144	The city social character	0.127
X127	The city roads size	0.091
X149	Cleanliness of the city	0.084
X131	The city car parking	0.064
X150	The city landscaping	0.04
X133	The city pedestrian walk - ways layout	-0.029
X141	The city public toilets	-0.031
X138	The city public transportation facilities	-0.042
X139	The city public telephones	-0.12
X135	The city road \ pedestrian walk - ways separation	-0.151
X132	The city pedestrian walk - ways size	-0.154
Type LS variables (low level of satisfaction $-0.2 \geq \text{STI} > -0.6$)		
X140	The city post offices	-0.222
X134	The city pedestrian walk -ways shading	-0.251
X115	Adequate of clinics in the city	-0.284
X136	The city sitting area -adequate	-0.329
X137	The city sitting area - convenience	-0.333
Type VLS variables (very low level of satisfaction $-0.6 \geq \text{STI} \geq -1$)		
	None of the city variables	

95 out of the 151 variables (62.9%) has a mean satisfaction index of “satisfactory”; one variable as “acceptable” and the remaining 55 variables (36.4%) were “unsatisfactory”.

Among the 95 variables which were considered as “satisfactory” 28 applied to accommodation, 27 applied to neighbourhood and the majority 39 variables were within the city category. The 55 “unsatisfactory” variables were divided among the three categories, as 24, 20, and 11 respectively.

6.3.1 Interpretation of Satisfaction Indices

The maximum satisfaction index that any variable could have is +1 and the minimum is -1. Five regions of satisfaction indices were delineated as a framework for interpreting levels of satisfaction:

1. *VHS* : very high level of satisfaction $+1 \geq \text{STI} > +0.6$
2. *HS* : high level of satisfaction $+0.6 \geq \text{STI} > +0.2$
3. *MS* : medium level of satisfaction $+0.2 \geq \text{STI} > -0.2$
4. *LS* : low level of satisfaction $-0.2 \geq \text{STI} > -0.6$
5. *VLS*: very low level of satisfaction $-0.6 \geq \text{STI} \geq -1$.

Table 6.9 shows that among the 151 environmental satisfaction variables only 28 variables (18.5%) were considered as very highly satisfactory (*VHS* variables). Most of those variables were related to the accommodation category.

Also the accommodation variables are the most common in the very low level of satisfaction region (10 out of 13). While none of the city aspects emerged as a major problem, that is with a satisfaction index $\text{STI} > -0.6$. The majority of the neighbourhood variables had either high or moderate level of satisfaction indices, (31 out of 47 variables). However the majority of city variables (33) were considered as very high or high satisfactory variables.

Table 6.9 Distribution of Accommodation's, Neighbourhood's and City Variables According to the Five Level of Satisfaction Regions

Level Of Satisfaction Region		Accommodation		Neighbourhood		The City		Total	
Type	Description	No. Of Variables	%	No. Of Variables	%	No. Of Variables	%	No. Of Variables	%
VHS	(very high level of satisfaction +1 ≥STI > +0.6)	13	8.60%	5	3.31%	10	6.62%	28	18.54%
HS	(high level of satisfaction +0.6 > STI > +0.2)	10	6.62%	15	9.93%	23	15.23%	48	31.79%
MS	(medium level of satisfaction +0.2 > STI > -0.2)	12	7.95%	16	10.60%	12	7.95%	40	26.49%
LS	(low level of satisfaction -0.2 > STI > -0.6)	9	5.96%	8	5.3%	5	3.31%	22	14.57%
VLS	(very low level of satisfaction -0.6 > STI ≥-1)	10	6.62%	3	1.99%	0	0%	13	8.61%

6.4 Degree of Importance and Suitability of Variables for Analysis

As can be noticed, the variables that have been tested in this study were based on the original aspects of satisfaction based on Islamic principles that were developed in Chapter 4 and Appendix A. However, the respondents' answers to some of these variables indicate that these could be classified as important aspects of satisfaction, where the most pilgrims were either very satisfy or very dissatisfied. On the other hand, there are some variables which, although they reflect Islamic principles, are not considered as important by pilgrims. These variables mostly reflect an unexpectedly high percentage⁸ in the middle option of the satisfaction answers (acceptable). The non-important variables could be classified according to the reason of selecting the middle option as follows:

A) Lack of interest since the purpose of the pilgrims' journey is religious, and thus there is no time for such activities. Variables Include:

At Accommodation level

1. Distance to recreational facilities.
2. Accessibility to recreational facilities.
3. Entertainment facilities / adequate.

At the City /Neighbourhood level

4. Distance to recreational facilities.
5. Accessibility to recreational facilities.
6. Entertainment facilities / adequate.
7. Entertainment facilities / convenience.

B Lack of knowledge due to the short time of stay or unknown information.
Variables include:

⁸ Variables where 1/3 or more of respondents selected the middle option have been considered as unimportant and thus unsuitable variables for analysis.

At the City /Neighbourhood level

1. Size of the city/ neighbourhood.
2. Layout of the city / neighbourhood.
3. Type of neighbourhood / co-residents within the neighbourhood.
4. Number of neighbourhood in the city.
5. Neighbourhood visual privacy

C)Not Applicable due to the absence of the concerned element . Variables include:

At Accommodation level

1. Sitting room size.
2. Sitting room orientation.

Analysis of the above 14 variables might result in improper findings, therefore, while they will be included in the tables for comparison proposes. They will not be discussed in the following chapters 7 and 8.

6.5 Summary of the Findings

Investigation of the two units of analysis shows that they have a variety of characteristics. Residences were mainly commercial multi-storey apartment buildings with a high rate of occupancy. The layout of these buildings was influenced either in their original design or adaptation after construction by their owners as accommodation for pilgrims. Mostly, they are rented on an individual rooms basis sharing a common service space. The lack of furniture in these spaces lead to undesirable behaviour such as using the bedrooms for sitting, cooking, storing, washing and drying.

Pilgrims as the second unit of analysis were from different national groups. They are mostly between 21 and 60 years old, married and with a monthly income up to 1,000 SR. Pilgrims mostly come in a group of two to four family members, intend to stay in the city for one to two weeks depending on the age of the respondent. Most of the

pilgrims share their room with more than three persons. This room is used for cooking, eating and washing and drying of clothes in addition to sleeping.

The satisfaction index shows that half of the built environment variables show more than a medium level of satisfaction. Most of the variables that show either a low or very low levels of satisfaction relate to the accommodation. On the other hand, the majority of variables with a very high or high level of satisfaction are the city variables.

CHAPTER 7

Survey Analysis of the Pilgrims Satisfaction with the Existing Accommodation in al-Madina and Their Perception of the Future Development of the Accommodation

7.1 Introduction

Chapter seven aims to test the result of the pilgrims' satisfaction with their existing accommodation. Therefore, the chapter is divided into four main parts: first, analysis of the collected data of the main aspects of residents' satisfaction which are: the accommodation's location and accessibility, its exterior characteristics, its internal characteristics, its environmental conditions, its infrastructure and services, its socio-cultural environments, its costs and its aesthetic values. The analysis of these aspects includes a descriptive and comparative evaluation of 54 variables by discussing their frequencies, percentages, mean scores, and Cross-tabulation of related variables, as well as determining their satisfaction indices and their contribution to the degree of satisfaction with the accommodation.

Secondly, the chapter summarises the general attitude of the pilgrims to their accommodation by using the above method of analysis. Thirdly, it examines the pilgrims' impression of their existing and future accommodation by adding a comparison question to investigate the reasons for the pilgrims' preferences.

Finally, the chapter concludes by defining the findings of the survey analysis of satisfaction with the accommodation.

7.2 Accommodation's Location and Accessibility

The new development of the central area of the city of the prophet, which is not completely finished, has increased the distance to be travelled between the residential areas and al-Haram. However, most of the pilgrims' accommodation is still within walking distance of the Prophet's Mosque. An aerial plan of this central area and its surroundings would show that areas vary in terms of their accessibility to al-Haram. Districts of the city centre could be divided in terms of distance and accessibility to al-Haram into:

A. Districts within the inner ring (The first ring road): (King Faysal Street - al-Setein), the area that has not yet been demolished includes:

1. al-'Anābīh district, which is located to the east of the Prophet's Mosque. It is characterised as the nearest and the most concentrated area of visitor residents. Usually there is no obstruction for walking to al-Haram.
2. al-Sulamani district, which is located to the north east of al-Haram, is the second favourite area for the pilgrims due to its proximity to al-Haram. Pilgrims need to cross a road with slow moving traffic, and may cross a narrow part of the new development area.

B. Districts outside the inner ring. These could be classified in terms of accessibility into three types:

1. Qurban and Quba districts, which are located to the south of al-Haram. Visual and walking accessibility are good due to the demolition and unconstructed parts of the development area between them and the Prophet's Mosque. A road bridge forming part of King Faysal Street (sixty meters wide) located between these areas and the central area now gives the pilgrims the opportunity to avoid high speed car traffic. But this bridge creates a visual separation of these areas from al-Haram.

2. Bab al-Majede (al-Tamare) district, located in the north of al-Haram is the most concentrated area after the inner districts. It is similar in distance to Qurban and Quba districts, but the constructed parts of the new development projects of the central area located in front of the pilgrims on their way to al-Haram limit pedestrian access. The few pedestrian ways between the project's temporary fencing create crowding for pedestrians. Due to the new high rise buildings located between these areas and al-Haram, it is more difficult to see the mosque. Because a high percentage of pilgrims cross King Faysal Street during praying time, the city police organise car and pedestrian movements well.
3. al-Ajaba district is located to the north east of al-Haram. Pilgrims are supposed to cross King Faysal Street and then pass mainly through al-Sulamanih district.
4. al-Hashemya District is located to the west from al-Haram much further from the above districts. The Prophet Mosque can be clearly seen at present because construction of the new projects has not started. But pilgrims pass through the car park on their way to al-Haram.
5. al-Kutbea District which is located to the south west of al-Haram has a similar degree of accessibility to the Prophet Mosque but the distance is greater.
6. Bab al-Shame District which is located to the north west of al-Haram, is the same distance as al-Kutbea district, but the Mosque is less clearly visible and pedestrian access is more difficult due to partial construction of the area between the district and the Prophet Mosque.
7. al-Awale District has the least accessibility due the location of the cemetery of al-Baqea in the way of the pedestrians to al-Haram. Therefore, pilgrims have to walk around al-Baqea's high fencing in order to pray in the Prophet Mosque.

Although most of the pilgrims pray in the Prophet's Mosque, there are many other mosques within a walking distance to most of the accommodation.

Shopping areas are spread in all areas around al-Haram, but the shopping areas in al-'Anâbîh district and al-Sulamani district are the first favourite areas for the pilgrims since they contain most of the pilgrims' needs and many gifts shops. Also, shops can be found both in main streets around the districts and their inner streets, while shops are also located in the outer street of other districts. The second favourite shopping area is the *al-Madina Dates Suq* which is located on the way to Quba District.

7.2.1 Satisfaction with Accommodation's Location and Accessibility

The pilgrims generally show much satisfaction (94%) with the short distance between their buildings and the Prophet's Mosque. The results show 22.9% of the people were very satisfied and 68.7% were fairly satisfied. Only 8.2% were either fairly dissatisfied or very dissatisfied. Respondents indicated that they were less satisfied with the distance to other mosques than to the Prophet Mosque. On the other hand, they expressed more satisfaction with the actual journey (accessibility) to those mosques than with the journey (accessibility) to al-Haram. This result could be related to the problem of redevelopment, the traffic flow, and greater crowding as the distance decreases from al-Haram (Table 7.1).

The above results emphasise that the relationship between the accommodation and the mosque in terms of location and accessibility has great importance for the Islamic society. This importance was a result of the emphasises in Islam on the unity between society members. The society in Islam is described as one body, where the members of that society are the body parts.

Prophet (PBUH) said: *"Believers, when kind, compassionate and affectionate to each other, resemble the body: when one part of the body suffers illness, the rest of the body shows compassion by expressing pain and fever"*. Agreed upon, (Riyad al-Salihin, P. 120, serial 222.)

Table 7.1 Satisfaction with the Accommodation's Location and Accessibility
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Distance to Al Haram	20.2	63.8	0.4	4.7	0.9	1.922	0.884 VHS
2. Accessibility to Al Haram	22.9	68.7	0.2	5.8	2.4	1.962	0.834 VHS
3. Distance to other mosques.	25.8	51.8	16.7	5.3	0.4	2.029	0.719 VHS
4. Accessibility to other mosques	24.2	72.9	0.0	2.7	0.2	1.818	0.942 VHS
5. Distance to shopping	21.3	66.4	0.2	9.6	2.4	2.053	0.779 VHS
6. Accessibility to shopping	22.9	66.4	0.0	7.6	3.1	2.016	0.786 VHS
7. Distance to recreational facilities	1.6	4.2	83.8	5.3	5.1	3.082	-0.046 MS
8. Accessibility to recreational facilities.	0.9	4.2	84.2	6.0	4.7	3.093	-0.056 MS
9. Distance to relatives and friends.	70.7	21.8	3.1	3.8	0.7	1.420	0.249 HS
10. Accessibility to relatives And friends.	69.3	21.8	2.7	4.0	2.2	1.480	0.849 VHS
11. Distance to public transportation	32.9	36.4	13.8	9.3	7.6	2.222	0.524 MS
12. Accessibility to public transportation	34.2	42.9	7.6	8.7	6.7	2.107	0.617 VHS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

It is that principle which stresses the desire of the Muslims to be within the community and to select his accommodation in the nearest location where he can be most accessible to the heart of that community (that is the main mosque or the Prophet's Mosque). Also, it is worth mentioning that;

Prophet (PBUH) said: *"Group and Public prayer is 27 times better than individual prayer"* Transmitted by Umar ibn al-Khattab.¹

Therefore, as the accommodation location and accessibility to the mosque increases, the chance to practice group prayer and its reward will increase. In addition, pilgrims enjoy the shopping area around their buildings on their way to and from al-Haram. Information collected shows that the majority of the respondents were satisfied with distance and accessibility to shops, the degree of satisfaction was 87.8% and 89.3% respectively.

Allah permits activities such as trading. He even encourages these activities because of their importance to the well being of life in the community.

Allah said: *"... whereas Allah has permitted trading and forbidden Riba (usury) ..."* Sura 2 al-Baqarah verse 275

The pilgrims generally arrange for their accommodation through their pilgrimage delegations which co-ordinates with the National Guidance Agency. Therefore, most buildings are occupied by the same national group. Actually this satisfies pilgrims who find themselves close to relatives and friends. Data shows that 92.5% of the respondents pronounce themselves "very satisfied" or "fairly satisfied" with the distance to relatives and friends. This also, is true in terms of accessibility to relatives and friends. Only 6.2% of the respondents were "fairly dissatisfied" or "very dissatisfied".

¹ al-Hadith al-Sharif (1991), 1st ed. (a CD Computer programme). Sakhar for Computer Programmes. Jeddah, Saudi Arabia.

The satisfaction of the pilgrims with these factors is in line with the stress of Islam on compassion, mercy and affection among members of the society. Therefore, principles such as socialisation, interaction, visiting and co-operation are encouraged. Islam even determines the degree of this relationship which should be strongest with relatives such as parents, then to the nearest of kin and so on.

Allah said: *"Worship Allah and join none with Him in worship, and do good to parents, kinsfolk, orphans, al-Masakin (the poor), the neighbour who is near of kin, the neighbour who is stranger, the companion by your side, the wayfarer (you meet), and those (slaves) whom your right hands possess. Verily, Allah does not like such as are proud and boastful;* Sura 4 an- Nisa verse 36.

A third of respondents (32.9%) said that they were "very satisfied" with the distance to public transportation, another third (36.4%) were fairly satisfied. On other hand only 16.9% were unhappy or dissatisfied. These percentages were similar to there for accessibility to public transportation. Therefore, more than three - quarters (77.1%) were satisfied with accessibility to this service.

7.2.2 The Effect of Attitudinal Differences in Accommodation's Location and Accessibility

Cross-tabulation of accessibility to al-Haram by age shows that the highest degree of satisfaction with the accessibility to al-Haram was shown by those who were 31 to 40 years old (34.4% of the total sample). This satisfaction then decreases as the age increases.

On the other hand, it seems that those who have a low monthly income were more satisfied with the accessibility to al-Haram than those who have a higher monthly income. This could be related to the fact that those who are earning less money are more used to walking long distances and originally their "*image map*" considers the distances and accessibility shorter and easier than those who have more luxurious lifestyle and income.

7.2.3 Accommodation's Location and Accessibility- Conclusions

Computing satisfaction indices shows that 9 out of 12 variables related to location and accessibility had a very high level of satisfaction $VHS : (+1 \geq STI > +0.6)$.

Accessibility of the accommodation, was mainly affected by the distance, the means of transportation, the pedestrian ways or road width and layout, the separation of the pedestrian ways and the roads, and the traffic on the road. Therefore, we would expect that improvement to these factors would increase the pilgrims' satisfaction with their accommodation.

The results show that, for example, the majority (68%) of the respondents were fairly satisfied with accessibility to al-Haram and, at the same time, were fairly satisfied with the distance to al-Haram. We mentioned above that most of the pilgrims go to al-Haram on foot. The effect of the pedestrian ways' size and layout and their separation from traffic on the degree of satisfaction to the accessibility of the accommodation is as follows:

1. of the pilgrims were satisfied with the accessibility to al-Haram but at the same time were dissatisfied with the size of their neighbourhood pedestrian walk- ways. Only 31.8% were satisfied with the accessibility and with the size of the walk -ways.
2. 42.8% of the respondents were satisfied with the accessibility to al-Haram but they are not satisfied with the layout of the neighbourhood pedestrian walk -ways. 29.6% were satisfied with both aspects.
3. Only 32.2% of the pilgrims were satisfied with the accessibility to al-Haram and with the separation of neighbourhood roads from pedestrian walk ways. The majority (56.1%) were satisfied with the accessibility to al-Haram but dissatisfied with the separation of neighbourhood roads from pedestrian walk ways.

Locating the pilgrims' accommodation near the Holy Mosques of Makkah and al-Madina has been debated among researchers for a long time. They have divided themselves into two groups. The first group recommends the accommodation to be near the Holy Mosque thinking that since the pilgrims travel from long distances to pray in the two Holy Mosques, they should have the maximum opportunity to perform the public prayer in them. Their proximity will reduce the transportation problems that may occur. The second group think that pilgrims visit the city for a short time and thus accommodation near al-Haram will limit the chances for the citizens (who live in the city all the year) to perform most of their praying in al-Haram. The buildings left unoccupied for about 8 months each year will increase the land for crime in the city centre.

The extension of the Prophet's Mosque and its round open plaza gives the feeling that the distance between it and the surrounding area is short. However, with improvement of the means of transportation, what is affected is the time and speed of travel rather than the distance. Consequently, we would expect more development of public transportation to limit the time of travel from other areas to al-Haram. The time of travel could be shortened by widening the streets and pedestrian ways and avoiding the intersection between the types of transportation systems. It is clear that the new parking under al-Haram with its different access away from the crowded area around the Mosque helps both the private cars users and the pedestrians on the plaza level.

7.3 The Accommodation's Exterior Characteristics

The majority of the buildings around al-Haram are of reinforced concrete construction. It is quite clear that most of them have been built for more than fifteen years. But newly constructed building exist especially in the Gurbain area where the elevation contains the new types of '*Rawshans*'. Those '*Rawshans*' were introduced for the purpose of decoration and privacy. Therefore, the function of ventilation of the '*Old Rawshans*' has been completely neglected. Also, the materials of them have changed from wood to aluminium. The height of the buildings range from twelve stories

(mainly on the boundaries of the district and the buildings facing al-Haram) to three stories in the inner parts of the districts and areas further from al-Haram.

7.3.1 Satisfaction with the Accommodation's Exterior Characteristics

The building structure and height were examined as the two main exterior characteristics that may influence the pilgrims degree of satisfaction with their accommodation.

About three-quarters of the respondents (74.9%) were satisfied with the building structure. Also, another 18% of them look at it as "acceptable", and only 7.1% were unhappy with the building structure (Table 7.2).

Similarly, the majority of respondents (78.7%) show satisfaction with the height of their building. Therefore, both the structure and height of the buildings show a very high satisfaction index (0.678 and 0.603 respectively). Islam does not encourage increasing the height of buildings because it may effect neighbours (as we will discuss in the environmental aspects - section 7.5.1 and socio-cultural environment - section 7.7.1), yet the results of the responses of the survey regarding the height might be attributed to other factors such as the high occupancy rate of the building. Therefore, we would look forward to a compromise for the consideration of the building heights to satisfy the pilgrims in all related aspect that might be affected by height.

As discussed, the height of the sample buildings have a mean of 7.13 stories for hotel style and 5.59 stories for apartment style. We would expect that as the height increases the need for more lifts will increase. The limited number of lifts delays the pilgrims from the public praying time, because the time between *Adhan* (call to prayer) and *Iqama* (the time of actual praying) is very short. Therefore, we would anticipate increasing the lift numbers according to increasing occupancy. Also, disabled and elderly pilgrims should be housed on the ground floors of the buildings to enable them to have the easiest exits from the buildings.

Table 7.2 Satisfaction with the Accommodation's Exterior Characteristics
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Building structure	28.7	46.2	18.0	4.7	2.4	2.060	0.678 VHS
2. Height of the building	44.9	33.8	2.9	14.4	4.0	1.989	0.603 VHS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) *VHS* : very high level of satisfaction $+1 \geq STI > +0.6$, 2) *HS* : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) *MS* : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) *LS* : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) *VLS*: very low level of satisfaction $-0.6 \geq STI \geq -1$

7.4 The Accommodation's Internal Characteristics

Although most pilgrims rent their rooms on an individual basis and share with others, they consider the questions about the accommodation as applying to the whole apartment that contains their rooms. This is because most of the sample accommodation are furnished apartments containing a number of rooms occupied by the same national group. Each floor consists of from one to six apartments. These apartments are divided into one to five bedrooms sharing a small kitchen and one or two tiny bathrooms. Also, in the layout of some apartments, it is clear that some of these bedrooms (especially those near the entrance) functioned as sitting rooms in the original plans. But due to the needs of the pilgrims and increasing the owners profits, they have been allocated as bedrooms. Although the means of the room size are 13.51 to 35.16 m² (see general characteristics of rooms - section 6.3.1.1.3), the researcher felt that they seemed very small. This could be attributed to the high occupancy rate of these rooms. The furniture is mainly '*Târaha*' or '*Mâda*' which are very light sponge cushions to sleep on. These cushions are ideal in terms of easy arrangement, folding and storing. In our survey visits to the selected buildings we noticed that the bedroom were changed to what could be called a multi purpose room. Therefore, pilgrims use their bedroom not just for sleeping, but also, for sitting, dining, cooking, storage and even washing and drying space. The majority of the apartments do not contain any domestic equipment except a drinking water fountain and cooker in their kitchen. The shortage of equipment could be related to the cost of maintenance.

7.4.1 Satisfaction with Accommodation's Internal Characteristics

Most of the pilgrims (92%) were dissatisfied with the size of their accommodation. This may be linked also/ with the high proportion of dissatisfaction (67.4%) with the layout of the accommodation. However, more than a quarter (27.1%) of the respondents pronounced themselves as satisfied with the layout of their accommodation. Again, the respondents were unhappy (92.2%) with the room size (Table 7.3 a & b).

Table 7.3 - a Satisfaction with the Accommodation's Internal Characteristics
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Size of accommodation	1.6	5.8	0.7	8.4	83.6	4.667	- 0.847 VLS
2. Layout of the accommodation	10.4	16.7	5.6	32.7	34.7	3.644	- 0.402 LS
3. Size of rooms	1.8	5.3	0.7	34.2	58.0	4.413	- 0.851 VLS
4. Number of bedrooms	5.1	11.1	12.0	27.8	44.0	3.944	- 0.556 LS
5. Number of bathrooms	4.0	9.1	1.1	33.6	52.2	4.209	- 0.727 VLS
6. Bathroom orientation	10.0	16.4	23.1	20.4	30.0	3.440	- 0.24 MS
7. Kitchen size	4.0	10.9	6.0	36.7	42.3	4.624	- 0.642 VLS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

Table 7.3 -b Satisfaction with the Accommodation's Internal Characteristics (continued)

Aspects		Very Satisfied	Fairly satisfied	Neither Satisfied Nor Dissatisfied	Fairly Dissatisfied	Very Dissatisfied	Mean Scores*	Satisfaction index** <i>STI</i>
(Percentage Distribution)		1	2	3	4	5		
1. Storage or closet space		3.3	10.4	2.9	34.2	49.1	4.153	-0.695 <i>VLS</i>
2. Sitting room size		1.3	4.9	32.0	25.8	36.0	3.962	-0.556 <i>LS</i>
3. Number of sitting rooms		1.1	4.0	7.6	51.1	36.2	4.173	-0.822 <i>VLS</i>
4. Sitting room orientation		2.4	4.4	92.2	0.4	0.4	2.920	0.06 <i>MS</i>
5. In-home equipment		6.0	11.6	3.3	42.7	36.4	3.920	-0.615 <i>VLS</i>
6. Furniture		4.0	14.0	0.9	30.9	50.2	4.093	-0.631 <i>VLS</i>

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) *VHS* : very high level of satisfaction $+1 \geq STI > +0.6$, 2) *HS* : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) *MS* : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) *LS* : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) *VLS*: very low level of satisfaction $-0.6 \geq STI \geq -1$

These results could be attributed to the fact that Islam considers spaciousness of accommodation as one of the main factors of satisfaction and happiness of the man. Therefore, the residents feeling about his accommodation depends partly on the size of it.

Prophet (PBUH) said: *"it is man's happiness to enjoy a decent neighbour, a content style of life and a spacious residence."* Narrated by Ahmad, quoting Nafi' Abd al-Harith, (al-Tarhib wa al-Tarhib, Part 3, p. 238).

The room size in these building are mostly more than the average room size in England. In Saudi Arabia the temperature is very high in the summer and enlarging the room could enhance its ventilation, whereas in England they are kept small due to the need for heating in the winter. Therefore, the temperature of the room may affect the response of the satisfaction with the size of it.

Also, the layout of the accommodation acts to affect satisfaction in terms of whether it reflects the Muslims families' need for privacy between the families' quarters and the guests' quarters.

As might be expected, the dissatisfaction with both the accommodation size and the room size was shown in the pilgrims' attitude towards other features of the buildings. The data show that the majority of the respondents (71.8%) were dissatisfied with the number of bedrooms. The dissatisfaction of the pilgrims with their number of rooms was because Islam considers accommodation as a place of rest and quietness.

Therefore, for the accommodation to be satisfactory, it has to contain a sleeping area as the main component of the family quarters. Moreover, the special prominence shown by Islam to privacy leads to dividing the sleeping area into a number of rooms to secure internal privacy. The number and size of these room should reflect the needs of each resident. Also, most of the pilgrims (85.8%) were unhappy with number of bathrooms.

The emphasis of Islam on purity and cleanliness brings about the importance of bathrooms in the accommodation. Actually cleanliness is part of the Muslim's faith and prayer would not be accepted if ablution was not performed.

Allah said: *"O ye who believe! When ye prepare for prayer, wash your faces, and your hands (and arms) to the elbows; Rub your heads (with water; (wash) your feet to the ankles....".* Sura 5 al-Ma'ida verse 7.

Accordingly, for the convenience of Muslim life, the bathroom should contain two main areas, one for defecating and an ablution area as necessary to praying. Although, these areas are related and should be near each other, it is good to separate them because of the Islamic belief that the water closet is a dirty thing, in which the name of Allah should not be mentioned out of respect. Moreover, the Angels do not enter dirty places. In contrast, the ablution area is clean and the ritual washing process is started by mentioning Allah's names.

However, half of the respondents (50.4%) were dissatisfied with the bathroom orientation, which shows the Muslims' concern about the principle that the bath should be oriented away from the axis of *Qiblah*.

Narrated Abu Ayyub al--Ansari: *the Prophet said, "While defecating, neither face nor turn your back to the Qiblah, but face either east or west."* Abu ayyub added, *"when we arrived in Sham we came across some lavatories facing the Qiblah; therefore, we turned ourselves while using them and asked for Allah's forgiveness."* (Sahih al-Bukhari, Hadith No. 388, Vol. 1)

A quarter of the pilgrims (26.4%) were satisfied with the bathroom orientation which shows that the Islamic architects and owners of some of the buildings have some respect for this principle. The other quarter (23.1%) of the interviewees' answers as "acceptable", may be attributed to the lack of information about the orientation because they had just arrived at the accommodation or they may perform all their praying in the mosques.

A closer examination of the survey data shows that 14.9% were satisfied with kitchen size. Another 6% found the kitchen size acceptable. Eight in ten (79%) were not

happy with the kitchen size. Pilgrims felt the same about storage or closet spaces. About 375 interviews of the total sample of 450 pronounced themselves as either fairly dissatisfied (34.2%), or very dissatisfied (49.1%) with the storage or closet space. The majority of the pilgrims (87.3%) were dissatisfied with the number of sitting rooms.

Pilgrims were not satisfied with either equipment or furniture in the home. The data collected indicated that only 17.6% of the interviewees were satisfied whereas more than three-quarters (79.1%) were unhappy with home equipment (i.e. 42.7% were fairly dissatisfied and 36.4% were very dissatisfied). That fact is obvious in terms of furniture; eight in ten (81.1%) were dissatisfied with the furniture where only 18% were satisfied. The above results are in line with the consideration of Islam which shows the impact of furniture and in home equipment on the satisfaction of the accommodation. Allah even guides the man to utilise the materials that He provided for his convenience in producing furniture and other equipment

Allah said: "It is Allah who made you habitations. Homes of rest and quiet for you; and made for you, out of the skins of animals, (tents for) dwellings, which ye find so light (and handy) when ye travel and when ye stop (in your travels); and out of their wool, and their soft fibres (between wool and Hair), and their hair, rich stuff and articles of convenience (to serve you for a time). It is Allah who made out of the things He created, some things to give you shade; of the hills He made some for your shelter; He made you garments to protect you from heat, and coats of mail to protect you from your (mutual) violence. Thus He complete His favours on you, that ye may bow to His will (in Islam)." Sura 16 an- Nahl verses 80-81".

The provision of domestic equipment such as a washing machine or vacuum cleaner, etc., which increases satisfaction with the accommodation conforms with the highlighting of Islam in pure cleanliness and healthy living. However, the provision of both furniture and domestic equipment should fulfil other Islamic Principles of forbidding extravagance.

The degree of satisfaction with the furniture is not just related to the amount of the furniture but also to the way it has been arranged. For example, to preserve the satisfaction of Muslims, beds should be located in a way that the sleeper will sleep in quietness on his right side where his head or face is toward the *Qiblah*. This principle

came from the fact that sleeping is considered as rest and the body is between life and death, and the dead body should be laid in line with the head toward the *Qiblah*. Also, its believed that ordering Muslims to sleep on their right side was a result of the fact that this will be more comfortable for the heart which is located in the left side of the body as more practical for its pushing and receiving the blood from all the body parts. Also, there is more reward from sleeping on the right side which is considered as performing Sunnah.

Narrated al-Bara bin Azib *When Allah's Messenger (PBUH) went to bed he used to sleep on his right side*" Sahih al-Bukhari Hadith No 327, Vol. 8

Moreover, such principles may affect the size and opening or other components of the room such as doors, windows, air-conditioning location, and wardrobes.

From the above results one can notice some of the reason for the displeasure of pilgrims with accommodation size, layout, number of bedrooms, bathrooms, kitchen, sitting area, storage and furniture. This is reflected in the pilgrims behaviour inside their accommodation and outside. For example those who are disappointed with the number of bathrooms in their accommodation tend to use al-Haram public toilets. Also, those pilgrims who buy their meals outside their accommodation were those who were dissatisfied with the kitchen.

7.4.2 The Effect of Attitudinal Differences on Accommodation's Internal Characteristics

Cross-tabulation shows that over three quarters (76%) of the respondents who were dissatisfied with the size of their accommodation were in the age group 31 to 60 years old. The most dissatisfied groups with the size of the accommodation were those who were either employed or retired. The percentages were 43.6% and 22.7% respectively.

Also, the dissatisfaction with the size of accommodation seems to be higher in the people with higher education than those who have a lower education level. As

expected, 78.9% of the respondents who were dissatisfied with the accommodation size were married. This could be related to the effect of the size of the accommodation on the privacy of the family groups.

Moreover, the satisfaction with the size of the accommodation seems to be influenced by monthly income. Data shows that 71.6% of the sample, who were dissatisfied with the size of the accommodation, were earning up to 2500 Saudi Riyals per month (£417.7).

7.4.3 Accommodation's Internal Characteristics- Conclusion

As noticed in Table 7.3 a & b, the majority of variables (12 out of 14) which represent the accommodation's internal characteristics had either a very low ($VLS: -0.6 > STI \geq -1$) or low satisfaction index ($LS : -0.2 > STI > -0.6$).

We believe that the degree of satisfaction with any space depends mostly on the ratio of the space area to the number of users. In other words the satisfaction index for any space will be lowered as the above ratio becomes smaller. Moreover, lack of domestic equipment and furniture may influence the residents' perception of the amount of space. For example we notice that 64.7% of the pilgrims were dissatisfied with domestic equipment and at the same time were dissatisfied with the layout of their accommodation. Similarly 66.9% of the sample were dissatisfied with the furniture and also dissatisfied with the layout of the accommodation.

The majority of the respondents (66.7%) made their ablutions in their accommodation toilets, and they were dissatisfied with the number of these toilets.

We believe that the degree of satisfaction with the kitchen size is influenced by number of users. Does it reflect the Arabic saying "as the number of cooks increases the meal will be damaged"...?. Actually, the main reason could be related to privacy. Cross-tabulation of the degree of satisfaction with the size of the kitchen according to where

the pilgrims eat most of their meals shows that the highest degree of dissatisfaction with the size of kitchen (41.9%) was among those who share a common kitchen .

Although enlarging the rooms could result in more satisfaction with environmental aspects such as ventilation, problems such as privacy will be expected if the enlargement leads to increasing the number of room users. Therefore, we would expect that the number of pilgrims should not only consider the average sleeping area of each of them (in the study case it is 2.5 m² /pilgrim which is considered small) but also other aspects of the building such as layout, and average area of the kitchen and toilets. Improving the delivery service, using ready meals or serving the food through one common kitchen would reduce the possibility of fire which could happen when bedrooms are used as cooking space. Also, we would expect that using such services may lead to the kitchens areas being used to increase the average sleeping area of the pilgrim.

In the light of the above analysis of the accommodation's internal characteristics, we would hope for a high consideration of aspects such as size of rooms, number of bathrooms and kitchen size. Although, pilgrims come for a short time, we would expect that the size and number of these aspects should reflect the number of users.

7.5 The Accommodation's Environmental Conditions

With the high temperature of al-Madina (sometimes reaching 45 °C), most of the rooms contain an air conditioning systems (mainly window type units), which are adequate in terms of the rooms size but not for the number of pilgrims sleeping in those rooms. Fans were also provided with an openable window, which helps in ventilating the buildings when the temperature is from 20 to 30 °C. Also, the aluminium and glass window helps to allow the natural light into the rooms, especially without screening or curtains. Insulation, both thermal and acoustic, is very weak in the majority of the pilgrims' buildings around al-Haram. Therefore, traffic noise can

be heard in the buildings located on the main streets. However, exterior noise does not cause disturbance because of the internal noise caused by window air-conditioning and the high numbers of people in each room.

7.5.1 Satisfaction with Accommodation's Environmental Conditions

It was surprising to find that most of the respondents (60.4%) were satisfied with the ventilation and air conditioning and only 22.2% were dissatisfied. Actually, Islam stresses fulfilling healthy living with ventilation and natural light in the accommodation (Table 7.4).

Prophet (PBUH) said: *"Don't overshadow your neighbours' residences by rising your buildings' heights which may block fresh air from them, unless you are permitted to do so". Narrated by al-Khara'eti, quoting 'Amr ibn Shu'aib who quoted his father and grandfather, at Targhib wa al-Tarhib, Part Three, P.236. 31*

Respondents were asked about their satisfaction with both natural and artificial light. They were more satisfied with artificial light than with the natural light. Of the whole sample, 18.7% of the respondents were very satisfied with natural light in their accommodation. About a third (33.3%) were fairly satisfied. Another 14% considered the natural light as acceptable. The remaining third (34%) were dissatisfied. On other hand, two thirds of the sample (66.7%) were satisfied with the artificial light and about a quarter (26.5%) were dissatisfied.

Also, the survey examined the exterior noise transmission in the accommodation of the pilgrims by measuring their attitude toward this factor. The answers indicated that a high proportion (six in ten) of the respondents were satisfied while 35.5% were dissatisfied with exterior noise transmission to their accommodation. The result indicates that the affirmation of exterior noise transmission as a designation of the

Table 7.4 Satisfaction with the Accommodation's Environmental Conditions
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Ventilation and air - conditioning	23.8	44.7	9.3	10.0	12.2	2.422	0.462 HS
2. Natural light	18.7	33.3	14.0	18.2	15.8	2.791	0.180 MS
3. Artificial light	33.8	32.9	6.9	13.8	12.7	2.387	0.403 HS
4. Exterior noise transmission	32.0	29.6	2.9	23.3	12.2	2.542	0.26 HS
5. Exterior bad smell transmission	32.0	38.4	0.7	23.6	5.3	2.318	0.415 HS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

degree of accommodation satisfaction is in line with the Islamic principles of privacy and the consideration of accommodation as a place of quietness. Consequently, bad noise transmission between two apartments will cause harm to both parties, in a way that privacy of the talker will be broken and the listener will commit a sin by hearing his neighbour's private conversation.

A similar question was asked about the pilgrims' satisfaction with exterior transmission of bad smells in their accommodation. The majority of the pilgrims (70.4%) were satisfied. But, about a third (28.9%) of the interviewees were unhappy with the exterior transmission of bad smells. Islam emphasises the avoidance of exterior smell. This confirmation may include the good smell as well if it creates harm. For example, it is not preferred to cook strong-smelling food without sending part of it to neighbours because this smell may result in creating the hungry feeling and thus cause harm for them and their children.

Prophet (PBUH) said: *"there should be neither harming nor reciprocating harm"*.

7.5.2 The Accommodation's Environmental Conditions - Conclusion

Table 7.4 shows that most of the accommodation environmental condition variables (4 out of 5) reflected a high satisfaction index ($HS : +0.6 > STI > +0.2$)

The degree of satisfaction with environmental conditions may be influenced by the size of the room, occupation, type of building construction and materials insulation. Also, the degree of satisfaction with one of the environmental conditions may influence the degree of satisfaction with the others.

Calculation shows that, as the pilgrims become more satisfied with the exterior noise transmission or exterior bad smell transmission, the degree of satisfaction with the natural light of their building decreases. This might be attributed to the fact that, as acoustic and smell insulation become adequate, the possibility of natural light penetration decreases.

Moreover, a cross tabulation was calculated between exterior noise transmission and building construction. The result shows that 46% of the pilgrims were satisfied with the exterior noise transmission and at the same time were satisfied with their building construction including the insulation materials.

From the above, the environmental aspects are considered as determinant of the satisfaction with the accommodation especially in the case of pilgrims who come in large numbers from different parts of the world. We would expect that using suitable materials and design will improve the environmental conditions. For example, providing the rooms with curtains will enhance the room temperature and reduce noise transmission. However, these curtains should be selected to keep a good level of natural light penetration while avoiding the outside heat transfer. Also, we anticipate that good wall insulation and central air-conditioning with small room size will be more efficient to maintain a desirable inside temperature than increasing the room size and, thus, its occupation which may lead to a lack of privacy.

7.6 The Accommodation's Infrastructure and Services

Although most of the buildings around al-Haram are connected to the main infrastructure of the city, it is clear that these services are not adequate. Due to the over capacity of the buildings, owners bring additional water to the building by water trucks. This resulted in the need for extraction of the additional sewage from septic tanks.

Electricity levels are reduced in the afternoon hours due to the operation of all window air-conditioners in the rooms. The main switchboard is usually located in the main entrance or on the main elevation wall of the building.

On the other hand, most of the rooms are not provided with any type of telephone system, due to the cost of the service, but still the majority of the buildings contain one

or two telephone lines in their reception areas. Moreover, some of them provide a coin or card public telephone service in the main hall or outside the building.

7.6.1 Satisfaction with Accommodation's Infrastructure and Services

This section of the survey involved the main infrastructure and services that should be adequate and convenient to satisfy the pilgrims' needs.

The majority of the pilgrims (65.6%) were satisfied with adequacy of water in their accommodation. A small number (6%) considered the supply of water as acceptable. The remaining respondents (28.5%) pronounced themselves dissatisfied (Table 7.5). The convenience of the water system was less satisfactory than the water supply but still more than half of the pilgrims (56.9%) were satisfied with the water system. Muslims consider water as a valuable gift from Allah for the life of all living things including people. It is needed for drinking, irrigation and cleaning purposes.

Allah said: *"And We send down purifying water from the sky, that we may give life thereby to dead land, and We give many beasts and men that We have created to drink thereof."* Sura 25 verse 48-49.

An applied water system may demonstrate the Islamic principle which prohibits wasting water as a valuable substance, even if you are applying other Islamic duties such as cleaning or ablution.

Ibn Umar reported that Prophet (PBUH) passed by Sa'ad when he was performing ablution and said: *"what is this waste Sa'ad?" He replied: is there any waste in water? He said: yes even if you were sitting by a flowing river".* Mentioned by Imam Ahmad and Ibn Majah.

The survey also, investigated the pilgrims' degree of satisfaction in terms of the cleanliness of water. It was good to find that more than three-quarters (77.6%) were satisfied. Another 3.6% found the cleanliness of water only acceptable. Of the whole sample, only 18.2% pronounced themselves as fairly dissatisfied while a very small percentage (0.7%) were very dissatisfied with water cleanliness. This shows that water is clean water for drinking as well as cleaning; it satisfies the health requirements and that ablution is not acceptable with unclean water.

Table 7.5 Satisfaction with the Accommodation's Infrastructure and Services
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Accommodation water - adequacy.	26.9	38.7	6.0	15.8	12.7	2.487	0.372 HS
2. Water system - convenience.	22.0	34.9	4.4	22.4	16.2	2.760	0.182 MS
3. Accommodation water -cleanliness.	30.2	47.3	3.6	18.2	0.7	2.118	0.587 HS
4. Accommodation drinking water fountains	26.9	57.1	1.1	14.4	0.4	2.044	0.691 VHS
5. Sewage system - convenience.	24.7	27.6	13.1	18.0	16.7	2.744	0.175 MS
6. Electricity adequacy	31.6	37.2	15.4	11.1	4.7	2.200	0.53 HS
7. Telephone adequacy.	4.7	11.6	2.2	26.0	55.6	4.162	- 0.654 VLS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

We notice that the majority of pilgrims (84%) were satisfied with their accommodation drinking water fountains. Only 14.4% were fairly dissatisfied while very few (0.4%) were very dissatisfied. The provision of drinking water was one of the services most required. The owner of the building or the agent involved in renting it has to provide this to fulfil his building permit for pilgrim housing. The Qur'an indicated that offering water to pilgrims dates back to pre - Islamic times.

Allah said: *"Count ye the slaking of pilgrim's thirst and tendency of the inviolable places of worship as (equal to the worth of) him who believeth in Allah and the last day and striveth in the way of Allah? They are not equal in the sight of Allah. Allah guideth not wrongdoing folk."* Sura 9 verse 19.

Islam even came to insist on providing water for those who are travellers and in need of it. Hence, we can notice that Muslims build what they called *al-sabil* which literally means public drinking building or *"fountain for the sake of Allah's reward"*. This reward is very high even if the offering was for animals.

Prophet (PBUH) said: *"While a man was walking, he became thirsty; he therefore, went to a well, where he drank. As he went out, he met a dog with lolling tongue who was eating the damp earth (for its moisture) from thirst. He said, the same thing has befallen this (dog) as happened to me. He filled his shoe (with water), held it in his mouth, and went up and gave water to the dog. Allah thanked him and forgave him. They (the people) said, O messenger, we have charity for (giving water to) animals. He replied, "in cooling every little thing there is charity." And in another passage, "if one of Allah's slaves dies, his deeds cease, except for three: continuous charity, knowledge that is beneficial; and a righteous son praising Allah".* Reported by Abu Huraira.

Accordingly, we could expect that the accommodation's drinking water fountain to be one of the factors which influences the degree of satisfaction of the pilgrims.

Beyond the importance of water the researcher investigated three main services which could demonstrate the pilgrims' satisfaction with their accommodation. These were the sewerage system, electricity supply and telephone service. The survey indicated that over half (52.2%) pronounced themselves as satisfied with the convenience of the sewerage system, but still a considerable number of them (34.7%) were dissatisfied.

The majority of respondents (68.8%) were satisfied with the adequacy of electricity. Another 15.4% considered it only acceptable. A similar proportion (15.8%) said that they were not satisfied.

In contrast, most of the interviewed pilgrims (81.6%) appeared quite unhappy with the telephone services, while a small percentage (16.3%) were satisfied.

From the above it is clear that the overloaded capacity of the buildings affects the degree of adequacy of accommodation's infrastructure and services. The most satisfactory service was the provision of drinking water fountains due to the restrictions in the housing permission. On the other hand, the lack of telephones was the least adequate service due to a shortage of telephone lines for the whole city and the difficulty of bill payments. The difficulty of payment management control for such short letting and high occupancy, resulted in the fact that the owners of the buildings unwilling to provide such service for each room. Pilgrims were satisfied, in general, with water adequacy and cleanliness, but some of them were disappointed with the water system.

7.6.2 Accommodation's Infrastructure and Services - Conclusion

Table 7.5 indicates that, among the variables of the accommodation's infrastructure and services, only the adequacy of telephone shows a very low level of satisfaction, ($VLS: -0.6 > STI \geq -1$). In contrast the provision of accommodation drinking water fountains was the only variable with a very high satisfaction index ($STI = 0.691$).

Satisfaction with infrastructure and services is one of the important issues that leads to general satisfaction with other aspects of the accommodation. For example cross-tabulation of satisfaction with the artificial light with the electricity supply, shows that 61.5% of the whole sample were satisfied with both the artificial light and the adequacy of electricity.

7.7 The Accommodation's Socio- cultural Environment

Housing the same national group in the same buildings leads to very easy communication between residents of each building. This greatly increases the neighbours' co-operation and the social character of the buildings. There are a few buildings where you can find a common room for sitting and gathering. But the majority of the buildings do not contain these spaces. Therefore, pilgrims use their bed rooms as reception areas, in addition to other purposes. The lack of common space with the addition of a large number of people per room creates a lack of privacy. An additional problem is the lack of screening and window curtains. Most of the pilgrims with families tried to maintain privacy by renting two separate apartments, one designated for females and the other for males.

7.7.1 Satisfaction with the Accommodation's Socio - cultural Environment

The majority of the respondent (6.5 in 10) were satisfied with the social character of their accommodation (Table 7.6). Another 13.3% accepted the social level. But only 21.8% of the respondents pronounced themselves as dissatisfied with the social character of the building.

Also, most of its pilgrims (70.9%) were satisfied with the type of neighbours and co-operation of residents. Only a quarter (25.1%) of the pilgrims were unhappy with this factor. This reflects the Islamic consideration that a decent neighbour is one of the factors for happiness. It even considers honouring and respecting a neighbour as characteristics of the believer.

Prophet (PBUH) said: *"those who truly believe in God and the Judgment Day should be kind to their neighbours"*. Narrated by al-Bukhari and Muslim, quoting Abu Huraira, Matn al-Arba'in al-Nawawiyya, P.61.

Table 7.6 **Satisfaction with the Accommodation's Socio- Cultural Environment**
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Social character of the Building	11.1	53.8	13.3	6.9	14.9	2.607	0.431 HS
2. Type of neighbours/ Co- residents within the building.	19.8	51.1	4.0	17.8	7.3	2.418	0.458 HS
3. Visual privacy	6.4	24.7	7.8	36.4	24.7	3.482	-0.3 LS
4. Audible privacy	6.4	22.9	1.8	27.1	41.8	3.744	-0.396 LS
5. Inside privacy	6.0	16.6	2.4	47.1	27.8	3.782	-0.525 LS
6. Safety and security	25.3	57.3	8.2	7.3	1.8	2.029	0.736 VHS
7. Entertainment facilities/ adequacy	0.2	11.8	67.1	13.3	7.6	3.162	-0.089 MS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

Also, The Prophet (PBUH) said: *"Believers, when they co-operate with each other, resemble a consolidated building in full strength"*. Agreed upon, Riyad al-Salihin, P. 119, serial 220.

Privacy was examined as a major factor affecting the pilgrims in their attitude to the social environment of their building. Three types of privacy [privacy from being overlooked (visual privacy), privacy from being heard (aural privacy) and interior or inside privacy] were investigated in the survey. The result shows that about three respondents in every five (61.1%) were dissatisfied with visual privacy. Those actually were twice the number of satisfied pilgrims (31.1%). Pilgrims felt the same about the aural privacy. The answers indicate that 29.3% were satisfied with aural privacy, as opposed to 68.9% dissatisfied. Also, three - quarters (74.9%) of the respondents were unhappy with inside privacy.

The above results emphasise that privacy in Islam is considered as one of the chief principles that sustains the accommodation's socio-cultural environment. Therefore the level of satisfaction with the residence in Islam depends on the degree of preserving its members' privacy.

The confirmation of the Muslims in their privacy results from the fact that Islam declares both the degree and occasion of each types of privacy. For example, privacy between parents and family, older children and other members of the household in the sleeping quarters was designated on three main occasions; a) before morning prayer, b) at the noon time and c) after the late -night prayer.

Allah said: *"O ye who believe! Let those whom your right hands possess, and the (children) among you who have not come of age ask your permission (before they come to your presence), on three occasions: before morning prayer; the while ye doff your clothes for the noonday heat; and after the late-night prayer: these are your three times of undress: outside those times it is not wrong for you or for them to move about attending to each other: thus does God make clear the signs to you: for God is full of Knowledge and wisdom * But when the children among you come of age, let them (Also,) ask for permission, as do those senior to them (in age). Thus does God make*

*clear His signs to you: for God is full of knowledge and wisdom * such elderly women as are past the prospect of marriage, there is no blame on them if they lay aside their (outer) garments, provided they make not a wanton display of their beauty: but it is best for them to be modest: and God is One who sees and knows all things * it is no fault in the blind nor in one born lame, nor in one afflicted with illness, nor in yourselves, that ye should eat in your own houses, or those of your fathers, or your mothers, or your brothers, or your sisters, or your father's brothers, or your father's sisters, or your mother's brothers, or your mother's sisters, or in houses of which the keys are in your possession, or in the house of a sincere friends of yours: there is no blame on you, whether ye eat in company or separately. But if ye enter houses, salute each other-a greeting of blessing and purity as from God. Thus does God make clear the signs to you: that ye may understand **" Sura 24 al-Nur, verses 58-61.

Data shows that quite a high proportion of respondents (82.7%) were satisfied with safety and security in their residences. Only very few (9.1%) were dissatisfied with this factor. This shows the importance of safety and security as determinant of the Accommodation's satisfaction. This emphasis results from considering human life as the most valuable on earth. It is a consequence of the need for a quiet and satisfactory life, thus creating rules and punishment for those who cause insecurity for others.

Prophet (PBUH) said: *"He whom his neighbours don't feel secure and safe from his side, will never enter Heaven"*. Narrated by Tabarani on the behalf of Ka'ab ibn Malik and warranted by Muslim.

7.7.2 The Effect of Attitudinal Differences in the Accommodation's Socio-cultural Environment

The study shows that those who were married were more dissatisfied with the social character of the building than with those who were single, widowed or divorced.

Satisfaction with the interior privacy of the accommodation seems to be influenced by married status. The study shows that the majority (64%) of the respondents who were dissatisfied with the interior privacy were married. However, this might be attributed to the fact that the married respondents represented 85.1% of the sample.

7.7.3 Accommodation's Socio-Cultural Environment - Conclusion

As we noticed in Table 7.6 among the seven variables which represent the accommodation's socio-cultural environment, safety and security was the variable reflecting the highest level of satisfaction ($STI = 0.736$). In contrast, the three variables with the lowest level of satisfaction were those related to privacy in the accommodation. Satisfaction with the socio-cultural environment, especially in the Islamic community, is one of the important aspects that affect the comfort of the pilgrims in their accommodation. But the socio-cultural environmental aspects are influenced by other factors such as distance from relatives and friends. Cross-tabulations shows that the majority of the pilgrims (62.2%) were satisfied with the social character of the building and also satisfied with the distance from relatives and friends. Also, 68.3% of the whole sample were satisfied at the same time both with the type of co-operation of residents and the distance from relative and friends.

Moreover, we notice that an increase in the degree of satisfaction with some of the socio-cultural environmental factors may lead to a decrease in the degree of satisfaction with other factors. For example, cross-tabulations shows that when the pilgrims were satisfied with the visual privacy they claimed dissatisfaction with the natural light. Also, about three quarters (74%) of the pilgrims who were dissatisfied with the inside privacy were sharing their room with more than three people.

It is very clear in this section that the pilgrims were interested in answering questions relating to their social needs which emphasised the importance of considering social cultural values when we design for the Islamic built environment. In this matter, the survey indicated that pilgrims were satisfied with the social character and type of neighbours within their accommodation since they found themselves with the same national group.

Lack of visual and sound privacy both outside and inside were the most important issues of the socio-cultural environment which proved disappointing. Individual discussion with pilgrims indicated that the main reason for a lack of privacy is housing

a lot of people in the same room. Therefore, we would anticipated a high consideration of all types of privacy within the building. For the satisfaction of Muslims, privacy is more than separating female quarters from male quarters, it is even between the same sex type in certain occasions, such as changing clothes. Therefore, with the high occupation rate which reaches up to more than 14 people in one room, we would expect some provision to maintain privacy in such circumstances. This high rate of occupancy will result in having people from different family groups in the same room, where chances of contact between the female and male from the same group will be reduced by considering the privacy of other families members. For example, if a family consists of a man, his wife and a 10 year boy (who should sleep in the male section) and the child was in emergency need in the middle of the night, the father would face a difficulty in contacting his wife due to the privacy issue. Consequently, with respect to privacy we would look forward to a provision in the building design which allows this contact to ensure the satisfaction of all pilgrims males and females. We are in a situation where we need privacy and safety for individuals on the one hand, and more socialisation between the building members on the other hand. Therefore, we hope to maintain privacy by reducing the number of people per room and, at the same time, increasing the social character of the building by housing it with the same national groups and providing them with a common space area for that purpose. In other words the hierarchy should be maintained between the very small degree of private space (e.g. the sleeping area) and the highly public area (e.g. al-Haram where different national groups gather for praying). Actually, keeping the same national groups in each building will help in providing them with the suitable services such as type of food.

So one can argue that a considerable percentage of the dissatisfaction of the social environment could be related to the design criteria of the building, such as accommodation area, layout, lack of insulation and lack of screening.

Pilgrims were generally satisfied with the safety and security of their building due to the high consideration of these factors by the governments authorities. Yet, we expect that reducing the occupation of rooms and building walls enhance the level of safety and security.

In terms of the adequacy of entertainment facilities most of the pilgrims have no interest in such activities in their building. Therefore, we expect that provision of such activities should be kept to the minimum.

7.8 The Accommodation's Cost

Most of the pilgrims arrange for their pilgrimage to Makkah and their visit to al-Madina in their own countries through travel agents. Therefore, they pay for their accommodation in the Prophet's City as part of a complete package. Mostly the accommodation prices include both the renting and the service cost. The accommodation prices are usually divided according to the time of the year. The off season daily accommodation prices range from thirty to four hundred Saudi Riyals (about £5 to £65) per room, This price increases in the pilgrimage season to more than double (£10 to £130) per room.

7.8.1 Satisfaction with the Accommodation's Costs

Both of the accommodation's costs variables were within the moderate level of satisfaction index, ($MS : +0.2 > STI > -0.2$). However, pilgrims were more satisfied with the rental of their accommodation than with the service cost. The percentage of satisfaction was 37.8% and 34.3% respectively. But the percentage of dissatisfaction with rental cost (42.2%) was higher than dissatisfaction with the service (29.1%). This might be attributed to the fact that some of the pilgrims did not know about the cost of the service which might be included with the rent; it could be noticed from the number of pilgrims who answered with "acceptable" to questions both of renting cost and service cost (20% and 36.5% respectively) (Table 7.7) .

However, Islam forbids man's extravagance; therefore, moderation in world affairs and enjoyment is the best way of life.

Table 7.7 Satisfaction with the Accommodation’s Economical Conditions
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Accommodation renting cost	8.0	29.8	20.0	25.8	16.4	3.129	- 0.044 MS
2. Services cost	7.6	26.7	36.5	22.9	6.2	2.935	0.051 MS

* Mean ratings are based on scores of 1 for “very satisfied” and 5 for “very dissatisfied”. ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) *VHS* : very high level of satisfaction $+1 \geq STI > +0.6$, 2) *HS* : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) *MS* : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) *LS* : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) *VLS*: very low level of satisfaction $-0.6 \geq STI \geq -1$

Allah said: *"Verily spendthrifts are brothers of the evil ones; and the evil one is to his Lord (Himself) ungrateful."* Sura 17 al-Isra verse 27.

Also, Allah said: *"make not thy hand tied (like a niggard's) to thy neck, nor stretch it forth to its utmost reach, so that thou be come blameworthy and destitute."* Sura 17 al-Isra verse 29.

7.8.2 The Effects of Attitudinal Differences in the Accommodation's Cost

Cross-tabulations of the accommodation rent by the pilgrims background shows that there were no significant influences by age, occupation, or educational status in the accommodation renting cost.

On the other hand, the degree of satisfaction with accommodation rent cost seems to be influenced by marital status. Most of those who were dissatisfied with the accommodation rent cost were married (36.7% of the total sample). Also, the most dissatisfied group with this aspect were those who earn up to 2500 Saudi Riyals per month, or £417 (31.8% of the total).

The service cost seems not to be affected by the background of the pilgrims. This could be related to the fact that either the service costs were included in the accommodation cost, or that there were no service costs due to the minimum services that the owner of the building provides for the residents.

However, we would expect that improving the building condition, and services will lead to increasing their cost. However, with respect to the fact that performing the pilgrimage should be done once in a lifetime, provided people have the ability to do so, the minimum services should be determined at a the satisfactory level.

Allah said: *"... pilgrimage thereto is a duty men owe to God, those who can afford the journey..."*. Sura 3 al-Imran verse 97.

7.9 The Accommodation's Aesthetic Values (Appearance, Cleanliness, and Landscaping)

The buildings aesthetic values are affected by different factors such as age, location, and the cost of accommodation. Most of the interior finishing of the sample buildings were plaster and white paint for the walls and ceilings. Terrazzo tiles covered by carpet are used for most of the floors. Marble was used in the entrance halls of the buildings. The aesthetic values of the bedrooms are very poor which could be attributed to the fact that these rooms have lost their main function as sleeping space, and act as multi-purpose rooms. The lack of some furniture and equipment affects internal appearance. For example, the lack of curtains leads the residents to hang their clothes in the windows for protection from the sun and privacy. Also, lack of storage and closet space creates a large quantity of pilgrims' luggage and belongings. The lack of drying equipment leads the pilgrims to hang their clothes on the doors, on the stairs, on a washing line in the middle of the room, on the exterior walls and even outside their building, which affects the exterior appearance.

The huge numbers of window air-conditioning units affects the aesthetic value of the elevations of the buildings. It is interesting to notice that some of the architects tried to avoid the bad appearance of this air-conditioning equipment by covering them with wood screening which appears as new '*Rawshans*. Although the building elevations in general could be found in any other city of the world, some architects try to express the Islamic identity of buildings by including some Islamic calligraphy in their entrances or elevations.

A very small percentage of the buildings contain interior landscaping. This could be attributed to lack of land and its high value. The hot temperature of al-Madina might also result in unavailability of interior plants.

7.9.1 Satisfaction with the Accommodation's Aesthetic Value (Appearance, Cleanliness and Landscaping)

The majority of the interviewed pilgrims in the survey (about 7 in 10) were dissatisfied with the accommodation interior. However, this contrasts with the exterior appearance, where about half of the respondents (48.7%) were satisfied but about a third (33.2%) pronounced themselves dissatisfied (Table 7.8).

The pilgrims' reaction to the aesthetic appearance of their accommodation shows that Muslims give great concern to beauty. Therefore, it asks us to learn and think of the example of the aesthetic values revealed in Allah's creations.

*Allah said: "say: who hath forbidden the beautiful (gifts) of God, which He hath produced for His servants, and the things, clean and pure, (which He hath provided) for sustenance: Say: they are, in the life of this world, for those who believe, (and) purely for them on the Day of Judgment. Thus do We explain the signs in detail for those who understand *" Sura (7) al-A'raf verse (32).*

The expression of beauty in the accommodation could be through solidity in structure, balance, lighting, maintenance, cleanliness, landscaping and even colour. Detailed presentation of these aspects is clear in many Qur'anic verses and Prophetic Hadith. For example, Islamic principle determines that it is better not to represent living things in painting out of respect and obedience to the only God and Creator.

A'isha (may God be pleased with her) said; "the Prophet (PBUH) once returned from a journey and I had a window covered with a curtain decorated with figures. When the prophet (PBUH) saw the curtain his face changed and he said: "Oh 'A'isha the most tortured people on the Day of Judgment, will be those who imitate the creations of God', she added: "so we tore it apart and made it into a pillow or two".

If we consider those who answer with "acceptable" for the cleanliness of accommodation as a "satisfied" category, we can say that respondents were divided equally between satisfied and dissatisfied.

Table 7.8 Satisfaction with the Accommodation’s Aesthetic values (appearance, cleanliness, and landscaping)
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Accommodation interior appearance	13.8	17.8	7.6	37.3	23.6	3.319	- 0.293 LS
2. Accommodation exterior appearance	10.9	37.8	17.1	21.1	13.1	2.878	0.145 MS
3. Cleanliness of accommodation	12.9	29.4	7.6	33.9	16.3	3.111	- 0.078 MS
4. Accommodation interior landscaping	4.0	5.8	15.3	31.8	43.1	4.042	- 0.651 VLS

* Mean ratings are based on scores of 1 for “very satisfied” and 5 for “very dissatisfied”. ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) *VHS* : very high level of satisfaction $+1 \geq STI > +0.6$, 2) *HS* : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) *MS* : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) *LS* : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) *VLS*: very low level of satisfaction $-0.6 \geq STI \geq -1$

The most unsatisfactory factor for the accommodation's aesthetic values was interior landscaping. Answers indicate that three - quarters were dissatisfied with their accommodation interior landscaping. This could be attributed to two main factors: first, it is not an essential requirement for the "housing permit" and secondly, the high cost of management of the landscaping element with the hot weather of al-Madina and the increasing number of residents from different backgrounds.

Islam shows that harvesting and planting fulfils man's need. Even if the plant does not produce any food, its aesthetic value is useful.

The Prophet (PBUH) said: *"No believer plants a plant to sustain men, birds, or animals unless he deserves God's charity"* Narrated by Añas ibn Malik.

Also, the Prophet (PBUH) said: *"whoever plants a tree that may not be eaten by a man or another creature will still be rewarded by God"*. Narrated by Ahmad, al-Targhib wa al-Tarhib, Part 3, P. 245.

In general, this field work shows that pilgrims were displeased with their accommodation's aesthetic values such as interior appearance, cleanliness of accommodation and interior landscaping.

7.9.2 Accommodation's Aesthetic Values (Appearance, Cleanliness, and Landscaping) - Conclusion

As the data show, none of the accommodation's aesthetic values variables demonstrated a very high or a high level of satisfaction (i.e. $STI < +0.2$). We believe that this degree of satisfaction is affected by the satisfaction with other aspects such as the layout and furniture. To investigate this belief, a cross-tabulation of the accommodation interior with the layout of the accommodation was calculated. The result shows that 41% of the pilgrims pronounced themselves as dissatisfied with the accommodation interior and at the same time dissatisfied with the layout of the accommodation. Also, about half of the respondents were dissatisfied with the accommodation interior and at the same time were dissatisfied with the furniture.

Although, the interior landscaping is the variable with the lowest satisfaction index, cleanliness is considered as the most important factor of aesthetic value since it is connected to the general health of the pilgrims. The responsibility might be shared between a number of people, yet, if the number becomes large every one will count on others to fulfil this responsibility. Therefore, we expect that, by reducing the number of pilgrims per room, they will be more careful to clean their rooms than if these for a large number of people. Also, we anticipate that most of this un-cleanliness was due to individual food preparation in the kitchens or bedrooms. Therefore, if food is provided through a common kitchen and serviced in a common dining room, the cleanliness and internal appearance of the accommodation will be improved.

7.10 General Degree of Satisfaction with the Accommodation:

The pilgrims' feeling about living in the accommodation shows that a high percentage (68.2%) were dissatisfied (Table 7.9). This percentage was divided into fairly dissatisfied (46.2%) and very dissatisfied (22%). Over a quarter (27.1%) were generally satisfied with their accommodation. Thus the level of satisfaction index for accommodation was generally low ($STI = -0.411$).

7.10.1 The Effect of Attitudinal Differences in the Pilgrims' Summing up their Feeling Toward Living in Their Accommodations

Cross-tabulation of the pilgrims' summary of feelings about living in accommodation by age shows that the dissatisfaction seems to be greater in the answers of those who were more than 41 years old compared with those who were younger. The percentages of dissatisfaction were 36.8% and 31.5% respectively.

Moreover, 46.9% of those who were dissatisfied generally with life in the accommodation were those who were either self-employed or employed. Also, the

Table 7.9 General Satisfaction with the Accommodation
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
My feeling as a visitor toward living in the accommodation that I am in now in general is	10.7	16.4	4.7	46.2	22.0	3.524	-0.411 LS

* Mean ratings are based on scores of 1 for “very satisfied” and 5 for “very dissatisfied”. ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) *VHS* : very high level of satisfaction $+1 \geq STI > +0.6$, 2) *HS* : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) *MS* : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) *LS* : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) *VLS*: very low level of satisfaction $-0.6 \geq STI \geq -1$

dissatisfaction seems to be highest within the highly educated group of pilgrims. Moreover, 57.8% of the pilgrims who were dissatisfied generally with life in their accommodation were married.

Also, the summary of feeling toward life in the accommodation was influenced by monthly income. Data analysis indicated that 39.8% of the whole sample had up to 1000 Saudi Riyals (£166.7) in monthly income and were dissatisfied with life in their accommodation in general.

7.11 Comparison of The Existing Accommodations and the New Development in the Central Area

The interview contains in its third part another method to determine the pilgrims' attitude toward the existing situation and the future of the Prophet's City from the architectural point of view. A comparison question was asked about whether the pilgrims liked the accommodation where they lived during the survey, or if they preferred the style of the new major development in the central area. As might be expected, the large majority of them (86.4%) considered the architectural style of the recently developed buildings in the central area as better for al-Madina than the existing style (13.6%). To specify the reasons for selection in the previous questions, pilgrims were asked to choose the three most important factors behind their answer. The results indicated the following:

1. The most important reason for their selection (91.3% among the respondents) was that the new development buildings may contain bigger rooms than the building where they were living in during the survey.
2. The pilgrims (88.9%) said that the new development buildings were much nearer to al-Haram than the existing accommodation.
3. Pilgrims (67.6%) believe that the services are better in the new development buildings than in the existing building.

These findings support our previous presumption, that the most frequent problems that pilgrims of al-Madina face are the overloaded capacity of the accommodation in relation to the room size, the distance between their accommodation and al-Haram, and problems related to services and facilities.

Therefore, we expect a high approval for the pilgrims accommodation near al-Haram or improving the transportation between the al-Haram and the accommodation to let the pilgrims feel that they are close to al-Haram. Consideration should be given for both the average space per pilgrim and the number of users for all rooms such as bedrooms, toilets, kitchen etc. This along with better maintenance will help in improving the building services and facilities.

7.12 Summary and Findings

The analysis of pilgrims' satisfaction with their accommodation location and accessibility shows a very high degree of satisfaction for most of the variables. This indicates that the accommodation being in the central area of the city satisfies the pilgrims who feel that they are near and within reach of the most important places and facilities such as al-Haram, other mosques, shopping, relatives, friends and public transportation.

Furthermore, the data shows that pilgrims were satisfied with the exterior characteristics of their accommodation. On the other hand, pilgrims showed either a very low or a low level of satisfaction with the accommodation's internal characteristics. Regardless of the condition of accommodation, this result indicates that, although their stay is short, the residents attach more importance to the interior of the accommodation than the exterior.

The investigation of satisfaction with the accommodation's environmental conditions shows that most of the pilgrims express a high level of satisfaction with all the variables related to this aspect. Analysis indicates that the degree of satisfaction with the environmental conditions was influenced by other variables related to the interior or exterior condition of the building.

The provision of drinking water fountains was the only variable with a very high level of satisfaction among the accommodation's infrastructure and services. This might be attributed to the frequency of providing water for pilgrims as it is considered one of the good charitable acts with a high reward in Islam. The low level of satisfaction with other services such as the water system, sewerage, electricity and telephones, in term of adequacy and convenience, may be related to the increase of the number of residents or that these building were designed for off season rather than the peak season.

Also, the overcrowding of the accommodation is reflected in very low levels of satisfaction with privacy as one of the accommodation's socio-cultural environment aspects. Yet safety and security was among the highest contentment factors. This could be related to the high consideration of the government toward the pilgrims safety and security as well as the effect of respect for the pilgrimage as a religious event.

Analysis indicates that pilgrims show a moderate level of satisfaction with the accommodation's economic conditions which include the cost of rent and service costs. In most cases, the service costs were part of the rental for the accommodation.

The summary of the pilgrims' feelings about actually living in their accommodation shows a high percentage of dissatisfaction among the pilgrims. This general feeling about the existing accommodation was expressed in the pilgrims' answers where the majority considered the architectural style of the recently new developed buildings in the central area was better than the existing style. The pilgrims indicate that they believe that room size, distance to al-Haram and services and facilities are better in the new buildings than the existing accommodation.

CHAPTER 8

Survey Analysis of the Pilgrims' Satisfaction with the Existing Neighbourhood and the City of al-Madina and their Perception of the Future Development

8.1 Introduction

The neighbourhood and the city are considered as the macro level of built environment while the micro level (Accommodation) discussed in the previous chapter, is located within their parameters. Therefore, the neighbourhood is actually formed by the number of accommodations that are located within it. The city contains a number of those neighbourhoods. It is worth indicating here that a number of pilgrims have slight confusion in defining their neighbourhood due to the short time that they spend as visitors to experience their neighbourhood parameters. We tried during the interview to guide the respondents to consider the street or pedestrian way that they take on their way from their accommodation to al-Haram as their neighbourhood. We believe that it is fair enough to consider that as representative of other areas of the existing neighbourhood.

This chapter examines the visitors' level of satisfaction with their neighbourhood and the city. The analysis will contain testing of frequency, percentage, mean score and cross tabulation, as well as satisfaction indices of 47 neighbourhood variables and 50 variables related to al-Madina as the city concerned.

Consequently, the chapter examines the visitors' attitudes toward seven main aspects. These aspects are: 1) the Prophet's Mosque (al-Haram), 2) the city/neighbourhood location and accessibility, 3) the city/neighbourhood internal characteristics, 4) the city/neighbourhood roads and pedestrian walkways, 5) the city/neighbourhood public

facilities and services, 6) the city/neighbourhood socio-cultural environment and 7) the city/neighbourhood aesthetic values. The chapter then shows the general feeling of the visitors toward their neighbourhood and the Prophet's City as a whole. Finally a conclusion is presented.

8.2 al-Haram (The Prophet's Mosque)

The area of al-Haram was created in the following nine phases:

1. Area of al-Haram as constructed by our Prophet (1060 m²). Then he extended it in 7AH./ 628 AD. 1415 m², to reach 2475 m².
2. Extension of Omar bin al-Khattab in 17AH./637 AD.(1100 m²).
3. Extension of Osman ibn Affan in 29 - 30 AH./649 - 650 AD.(496 m²).
4. Extension of al-Walid al- Umawi in 88-91 AH./707 - 710 AD.(2369 m²).
5. Extension of al-Mehdi al-Abbassi in 161 -165 AH./777 - 782 AD.(2450 m²).
6. Extension of Sultan Ashraf Qaitabai in 888 AH./1483 AD.120 m²).
7. Extension of Sultan Abdul Majid al-Osmani in 1265 - 1277 AH./1848 - 1861 AD.(1293 m²).
8. Extension of King Abdulaziz in 1372 AH./1952 AD.(6024 m²).
9. Extension of the Custodian of the two Holy Mosques King Fahd Bin Abdulaziz started in 1406 AH./ 1986 AD.- currently (82000 m²).

After the extension by the Custodian of the two Holy Mosques King Fahd bin Abdulaziz, the area of the Prophet Mosque will be 98,500 m² with a capacity of more than 167,000 worshipers. The roof of the extension has been used for praying (with a capacity of 90,000 prayers) after covering it with marble with area of 67,000 m². Therefore the Prophet's Mosque can accommodate more than 257,000 worshippers. Also the areas around al Haram (235,000 m²) were covered with granite and marble with roofing of some of these areas with mobile domes. More than 450,000 worshipers can pray in these areas, therefore it has increased the total capacity of al-

Haram during the holy month of Ramadan and the pilgrimage seasons to 700,000 worshippers¹.

The basement of the new extension was adapted to locate the public service and network, such as electricity, fire extinguishers, potable water supply, drainage and sewage, the telephone, modern closed circuit TV., a modern paging system, safety, and the main power supply. Also a huge and sophisticated air-conditioning system operating from a separate building located 7 km west of al-Haram was established to provide air-conditioning through a service tunnel².

The separation of male and female praying areas is very clear in the Prophet Mosque, also there are different entrances for male and female, therefore visual privacy is maintained.

Ablution and toilet areas were built below the area around al-Haram. These contained 6800 ablutions and 2500 toilets each with two sections, one for gentlemen and one for ladies, to maintain the highest degree of privacy.

8.2.1 Satisfaction with al-Haram

Visitors were asked about their attitude to some architectural and social aspect of al-Haram as the part of the city where they spend most of their time. These questions could be used as a test of the durability of the newly completed extension of the prophet mosque and to get an idea of what more could be done to further development (Table 8.1).

Over three quarters (76%) of the pilgrims were satisfied with the size of al-Haram. The other quarter were dissatisfied.

¹ (N. al-Ansari pp. 204 -205).

² (Bin Laden in co -operation with Akad publisher 1993 pp.79).

Table 8.1 Satisfaction with Al Haram
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Al Haram size.	42.9	33.1	0.2	20.7	3.1	2.080	0.522 HS
2. Al Haram activities.	49.1	30.4	0.2	19.8	0.4	1.920	0.594 HS
3. Al Haram structure.	47.3	41.3	11.3	00.0	00.0	1.640	0.774 VHS
4. Al Haram furniture.	40.1	59.5	0.4	00.0	00.0	1.604	0.993 VHS
5. Al Haram ventilation and air conditioning	43.6	53.1	3.1	00.0	0.2	1.602	0.965 VHS
6. Al Haram natural light.	31.6	40.9	6.0	13.8	7.8	2.253	0.508 HS
7. Al Haram exterior noise transmission.	42.6	52.0	3.6	1.3	0.2	1.640	0.933 VHS
8. Al Haram visual privacy.	40.2	40.9	7.8	7.3	3.8	1.936	0.7 VHS
9. Al Haram audible privacy.	24.7	35.1	8.4	20.2	11.6	2.589	0.28 HS
10. Al Haram safety and security.	32.4	62.0	2.2	3.1	0.2	1.767	0.911 VHS
11. Al Haram public toilets and ablution areas.	50.7	44.7	1.6	2.9	0.2	1.573	0.922 VHS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction +1 ≥ STI > +0.6, 2) HS : high level of satisfaction +0.6 ≥ STI > +0.2, 3) MS : medium level of satisfaction +0.2 ≥ STI > -0.2 4) LS : low level of satisfaction -0.2 ≥ STI > -0.6 5) VLS: very low level of satisfaction -0.6 ≥ STI ≥ -1

Due to the importance of al-Haram as the main element of the Prophet city for both residents and visitors of the city, it was thought that investigating the degree of satisfaction with al-Haram might reflect in the general level of satisfaction with the Prophet city. Consequently in the following lines we will discuss the Islamic principles that affect the satisfaction with the Prophet Mosque.

The satisfaction of the pilgrims with being near al-Haram is in line with the stress of Islam on public praying. It even highlights the importance of praying in the Prophet Mosque which will increase the reward of the Muslim.

Narrated 'Abdullah bin Zaid al-Mazini : Allah's Messenger (pbuh) said, *(Between my house and my pulpit, there is a garden from amongst the gardens of Paradise. ' (Sahih al-Bukhari, Hadi'th No.286 Vol.2)*

This emphasis shows the importance of al-Haram size in the general satisfaction with al-Haram and consequently with the prophet city.

Actually the Prophet's Mosque was extended many times to satisfy the increasing of the Muslims.

Narrated Ubaidullah al-Khauilani: *I heard 'Uthman bin Affin saying, when people argued too much about his intention to reconstruct the mosque of Allah's Messenger "You have talked too much. I heard the Prophet saying "Whoever built a mosque, with the intention of seeking Allah's Pleasure, Allah will build for him a similar place in Paradise.'* (Sahih al-Bukhari; Hadith No.441, Vol)

Eight in ten of the visitors (79.6%) were happy with al-Haram's activities. Also a high proportion of the respondents (88.7%) pronounced themselves as satisfied with al-Haram structure, and they were in agreement (99.6%) that the furniture of al-Haram was satisfactory.

A very large number of the visitors (96.7%) were satisfied with al-Haram's ventilation and air conditioning, also the natural light inside al-Haram (72.4%). This might be due to the courtyard system and the wide opening outward which increases the natural

light in the mosque. The courtyards and openings do not seem to affect the level of exterior noise transmission to al-Haram which might be due to the surrounding of al-Haram with its wide plaza acting as a barrier from the noisy traffic. This was very clear from the high percentage of satisfaction (94.9%) among the visitors with the exterior noise transmission inside al-Haram.

These results could be attributed to the special prominence giving by Islam in health and quietness, which brings about the significance of al-Haram ventilation, air conditioning, natural light and exterior noise transmission in the level of satisfaction with al-Madina.

As we know, there is separation between the male and female praying area in the Prophet's Mosque. The advantage of this separation was obvious in the respondents' answers where 81.1% of them were satisfied with the al-Haram visual privacy. This percentage was lower, but still high, (59.8%) with regard to audible privacy.

These result conforms with the conformation of Islam in conserving the privacy in all places is very evident in many Quranic Verses and Prophetic Hadith. The preservation of privacy as an important Islamic principle is required from not just men but also women.

Allah said: "And say to the believing women that they should lower their gaze and guard their modesty, that they should not display their beauty and ornaments except what (must ordinarily) appear thereof; that they should draw their veils over their bosoms and not display their beauty except to their husbands, their fathers, their husbands' fathers, their sons, their husbands' sons, their brothers or their brothers' sons, or their sisters' sons, or their women, or the slaves free of physical needs, or small children who have no sense of the shame of sex; and that they should not strike their feet in order to draw attention to their hidden ornaments. And O ye Believers! Turn ye all together towards God, that ye may attain Bliss. " Sura 24 al-Nur, verse 31.

In addition, considering the significant of praying in the Prophet Mosque for the large reward, all Muslims both men and women try their best to attend most of the prayers in al-Haram. Therefore, no wonder that Islam identifies the best row or places of prayer for men as the first (toward the *Quibla* or *Imam* who guide the prayers) and the

best for women as the back, to protect the privacy of both parts in the Mosque. So privacy of al-Haram is considered as a definite factor of satisfaction with al-Haram and thus with the city.

Most of the respondents (94%) were satisfied with al-Haram's safety and security. A similar percentage (95.3%) show a satisfactory attitude towards al-Haram's public toilets and ablutions.

The necessity of al-Haram public toilets and ablution areas results from the fact that praying will not be accepted without doing ablution and being cleaned, yet performing ablution is preferred in the house.

Allah said: "O ye who believe! Approach not prayers with a mind befogged, until ye can understand all that ye say, nor in a state of ceremonial impurity (except when travelling on the road), until after washing your whole body. If ye are ill, or on a journey, or one of you cometh from offices of nature, or ye have been in contact with women, and ye find no water, then take for yourselves clean sand, or earth, and rub therewith your faces and hands. For God doth blot out sins and forgive again and again" Sura 4 al-Nisa, verse 43

Therefore, availability of al-Haram public toilets and ablution areas affects the satisfaction of al-Haram specially from the visitors of city and those residents whose home is far from the Prophet's Mosque.

8.3 The Location and Accessibility

al-Madina can be approached by four main roads. The most important and modern road is the Makkah al Madina express way, which connects the city with the city of Makkah where the Holy Haram is located, and to Jeddah, the main pilgrims gates to both holy cities.

The second road is the Madina -Tabuk road which most of land pilgrims use. The third road is the Madina-Yanbu' road, the oldest road which connects Makkah to al-Madina. Nowadays it is mainly used by pilgrims coming through sea port of Enbu. And the fourth road, which could be considered as an inner road, is the airport road.

The city airport receives mostly internal flights, but in the pilgrimage time there are some international flights from neighbouring countries. The government established some visitor reception areas at the air port and on the main roads to the city. The main function of these reception areas is to guide the visitors to their accommodations and to control their movement to and from the city.

The location of the neighbourhoods and their accessibility was discussed in chapter 7 since it is so strongly related to accommodation location and accessibility.

8.3.1 Satisfaction with the Location and Accessibility

Over three quarters of the visitors (78%) were satisfied with the roads to the city, but this percentage is smaller in terms of city airport services (65%). This might be attributed to the fact that most of the visitors come to the city through its roads rather than the airport. Pilgrims show a high percentage (77.3%) of satisfaction with the city visitors reception centre facilities, though 18.9% of the respondents were unhappy with these facilities (Table 8.2).

Accessibility to any city depends on the means of transportation and number of routes. Actually, the above results are in line with the fact that transportation is described in Islam as a gift from Allah to help us in moving from one place to another and hence enhance the accessibility for these places.

Allah said: "We have honoured the sons of Adam; provided them with transport on land and sea; given them for sustenance things good and pure; and conferred on them special favours, above a great part of our creation" Sura al-isra verse 70.

Also, the services provided in the way to the city may affect the degree of satisfaction with the city's accessibility. Accordingly the city airport service and the city visitors reception centre facilities were significant factors designating the level of satisfaction with the city, especially if it is like Makkah and al-Madina which many pilgrims and visitors visit each year.

Table 8.2 Satisfaction with City's Accessibility
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Roads to the city	27.6	50.4	1.8	12.7	7.6	2.222	0.578 HS
2. The city airport services	2.62	38.9	16.0	17.1	1.8	2.293	0.462 HS
3. The city visitors reception centre facilities.	21.8	55.5	6.5	14.3	2.0	2.192	0.609 VHS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

In regard the distances and accessibility of the neighbourhood to the other area, pilgrims were first asked about their satisfaction with the distance between their neighbourhoods and al-Haram. Result shows that most respondents (88.9%) were satisfied with this distance. A similar percentage (88.2%) also pronounced themselves as satisfied with accessibility to al-Haram (Table 8.3).

Although the neighbourhood usually contains a number of Mosques which give the residents opportunity to perform public prayer, the degree of public prayer reward is higher with a larger number of prayers. Even praying in al-Haram is much better than praying in any other Mosque.

Narrated Abu Huraira Allah's Messenger (PBUH) said *"One Salat (prayer) in my mosque is better than one thousand Salat in any other mosque except al-Masjid- al-Haram."* (Sahih al-Bukhari, Hadith No.282, Vol.2)

The above investigation reflects the Muslim desire to be in the neighbourhood which is the nearest and most accessible to al-Haram.

Visitors were also satisfied with the distance and accessibility from their neighbourhoods to shops. Data shows that the percentage were 83.1% and 82.9% respectively.

As mentioned Islam realises the need for trade and shopping and sets certain roles for businesses activities such as justice. Yet the man should look for what satisfies himself in terms of type and price without throwing himself into destruction.

Over two thirds of the sample (67.6%) were satisfied with the distance of their neighbourhood from public transport as opposed to less than a quarter (23.1%) who were dissatisfied with this distance. Similarly, the majority of the respondents (70.7%) were satisfied with the accessibility to public transportation from their neighbourhoods. This result might be due to the fact that most of the pilgrims travelled on foot and did not suffer from the distance and difficult accessibility to public transportation.

Table 8.3 Satisfaction with the Neighbourhood's Location and Accessibility
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Distance to Al Haram	23.8	65.1	3.6	6.4	1.1	1.960	0.813 VHS
2. Accessibility to Al Haram	24.2	64.0	1.3	5.8	4.7	2.027	0.778 VHS
3. Distance to shopping.	20.4	62.7	3.1	9.8	4.0	2.142	0.693 VHS
4. Accessibility to shopping	18.3	64.6	0.7	10.5	6.0	2.214	0.663 VHS
5. Distance to recreational Facilities	7.3	9.8	65.6	11.1	6.2	2.991	-0.002 MS
6. Accessibility to recreational Facilities.	4.7	6.2	62.2	20.0	6.9	3.182	-0.16 MS
7. Distance to public transportation	25.6	42.0	9.3	18.7	4.4	2.344	0.445 HS
8. Accessibility to public	22.2	48.4	8.4	17.6	3.3	2.313	0.498 HS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$,

3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

As mentioned, good transportation is one of the factors of man's happiness. Public transportation is one means of travelling not just within the neighbourhood but also from the neighbourhood to other areas in the city. Satisfaction with the neighbourhood depends on the cost, distance and accessibility to all route and level of public transportation.

As we noticed the majority of the variables representing neighbourhood location and accessibility were either with very high ($VHS : +1 \geq STI > +0.6$) or high level of satisfaction index ($HS : +0.6 > STI > +0.2$).

8.4 The Internal Characteristics

We discussed the number of accommodation permits issued to house the pilgrims in the five main areas of the city (Chapter 5). These permits could be taken as a base for the size of the city neighbourhoods. The layout of the neighbourhoods was mainly distinguished by the main road as a ring determining the boundary of the neighbourhood. Two types of neighbourhood patterns are clear:

1. The irregular patterns such as in the case of the districts of al-Anabea and al-Sulamaina. Here it seems that the buildings are the main determinant for shaping the core layout of the neighbourhood. The irregular, relatively small roads were mainly for pedestrian use and service traffic.
2. The grid system in other districts of the central area, where the wider streets became the main determinant of the final form of the neighbourhood.

The city shopping areas type and layouts have been discussed in section 3.7.1 of chapter 3. However, neighbourhood shopping area layout and location are influenced by the general layout of the neighbourhood, therefore shops can be found in both the boundary streets and in the inner roads of an irregular pattern neighbourhood, whereas shops are concentrated in the main streets of the new grid pattern neighbourhood.

8.4.1. Satisfaction with Internal Characteristics

al-Madina is considered as the first Islamic city built and developed in the Prophet's time, thus we can argue that it has been built at that time according to the Islamic spirit. The Prophet determined the size of the sanctuary part of al-Madina as between its two mountains.

Narrated Abu Huraira If I saw (a herd of) deer grazing in al-Madina, I would not chase them for Allah's Messenger (PBUH) said, "*(al-Madina) is a sanctuary between its two mountains.*" (Sahih al-Bukhari Hadith No.97 Vol.3)

However, we should consider that with the increase in Muslim population and the development of transportation the number of both residents and visitors to al-Madina increases. Therefore, the size of the city, number of neighbourhood buildings and services should be proportionate to the number of users to preserve the Islamic principles such as accommodation convenience, healthy environment and satisfactory socio-cultural environment.

Half of the visitors (50.4%) were satisfied with the number of buildings in their neighbourhoods. Also over half of the pilgrims (57.8%) were satisfied with the height of the buildings (Table 8.4).

Although Islam encourages us to do good deeds with all Muslims, the highlighting of neighbours rights is more significant. The Islamic principle which determined the limit to which the neighbourhood right could be extended sets it at forty houses. This could be considered as a planning guideline for determining the neighbourhood size, layout and number of buildings.

Prophet (PBUH) said: "*Forty houses are considered as neighbours; and he whom neighbours cannot feel safe around shall not be admitted to heaven*". "*Neighbourhood rights extend to forty houses, to the right, to the left, to the front and to the back*". Narrated by al-Tabarani, al-Tarhib wa al-Tarhib 3, P.234

Table 8.4 Satisfaction with the Neighbourhood's Internal Characteristics
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Size of the neighbourhood	20.4	22.7	38.2	14.2	4.4	2.596	0.244 HS
2. Layout of the neighbourhood	18.4	25.6	35.8	19.1	1.1	2.589	0.238 HS
3. Number of buildings in the neighbourhood.	17.3	33.1	27.1	16.0	6.4	2.611	0.28 HS
4. Height of buildings in the neighbourhood	19.3	38.4	12.9	22.7	6.7	2.589	0.285 HS
5. Number of mosques in the neighbourhood	27.4	40.4	10.0	20.9	1.3	2.284	0.456 HS
6. Neighbourhood shopping area size	20.5	50.8	15.8	11.1	1.8	2.229	0.582 HS
7. Neighbourhood shopping area layout.	19.1	42.9	20.7	12.2	5.1	2.413	0.447 HS
8. Neighbourhood shops-adequacy	25.3	40.0	7.1	18.7	8.9	2.458	0.377 HS
9. Neighbourhood shop prices - convenience	25.1	32.2	12.7	20.0	10.0	2.576	0.273 HS
10. Neighbourhood restaurants- adequacy	20.4	45.3	8.9	19.9	9.3	2.484	0.405 HS
11. Neighbourhood clinics- adequacy	5.1	16.5	3.8	39.0	35.6	3.835	- 0.528 LS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

Accordingly, the insistence of the Muslim to preserve the principles of neighbourhood rights with others, and to be secure that other members of the neighbourhood treat them according to those values, results in selecting the neighbourhood with the number of buildings which fulfils the Islamic principles. Equally the affirmation of Islam on the privacy and healthy environment affects the degree of satisfaction with the height of the buildings in the neighbourhood.

Considering praying as one of the five main principles of Islam, and that public prayer is much better than individual, the degree of satisfaction with the city and the neighbourhood depends in the number of Mosques in them.

Narrated Ibn 'Umar Allah's Messenger (PBUH) , said, : *'Islam is based on (the following) five principles):*

1.To testify that La ilaha ill-Allah wa anna Muhammad-ar-Rasul Allah (none has the right to be worshipped but Allah and Mohammed is the Messenger of Allah).

2.Iqamat-as-Salat [To perform the (compulsory congregational) prayers].

3.To pay the Zakat

4.To perform Hajj.(i.e.pilgrimage to Makkah).

5.To observe Saum (fasts) during the month of Ramadan Sahih al-Bukhari.

Although most of the pilgrims use the opportunity of being in the prophet city to perform all their praying in al-Haram the survey examined the visitors' altitude toward the number of mosques in the city and in their neighbourhood. The question aimed to understand their perception toward the number of other mosques in the Prophet's City as being the second religious centre for Muslims. The results show that the majority of the pilgrims interviewed (70.6%) were happy with number of mosques in the city, and only 16.2% were dissatisfied (Table 8.5). Also, two thirds of the respondents (67.8%) were satisfied with the number of mosques in their neighbourhood, but 22.2% were unhappy with this number.

The shopping area "*al-suq*" is one of the most important components of the Islamic city since the period of the prophet. Therefore it was necessary to investigate the degree of visitor satisfaction with shopping from the architectural and social point of

Table 8.5 Satisfaction with City's Internal Characteristics
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Size of the city	13.6	29.6	35.9	16.3	4.7	2.688	0.222 HS
2. Layout of the city	14.7	33.3	35.1	13.8	3.1	2.573	0.311 HS
3. Number of neighbourhoods in the city.	13.3	37.3	29.3	14.2	5.8	2.618	0.307 HS
4. Height of buildings in the city	14.9	45.8	17.1	16.9	5.3	2.520	0.385 HS
5. Number of mosques in the city	17.6	53.0	13.1	14.5	1.8	2.298	0.542 HS
6. City Centre shopping area size	17.8	55.2	11.6	11.8	3.6	2.281	0.576 HS
7. City Centre shopping area layout	20.7	44.0	20.7	9.1	5.6	2.349	0.5 HS
8. City Centre shops-adequacy.	20.2	42.7	18.9	14.4	3.8	2.389	0.447 HS
9. The city Shop prices- adequacy -	23.1	37.6	18.0	13.8	7.6	2.451	0.394 HS
10. The city restaurants -adequacy -	10.2	53.8	14.7	14.2	7.1	2.542	0.427 HS
11. The city clinics - adequacy	4.9	25.8	10.2	45.8	13.6	3.371	-0.284 LS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction +1 ≥ STI > +0.6, 2) HS : high level of satisfaction +0.6 ≥ STI > +0.2, 3) MS : medium level of satisfaction +0.2 ≥ STI > -0.2 4) LS : low level of satisfaction -0.2 ≥ STI > -0.6 5) VLS: very low level of satisfaction -0.6 ≥ STI ≥ -1

view. Nearly, three quarters of the visitors (73.1%) were satisfied with the city centre shopping area size, and about two thirds (64.7%) were happy with the layout of the city centre shopping area. Similarly, the majority of the respondents (71.3%) were satisfied with their neighbourhood shopping area's size. A very small number (12.9%) were dissatisfied with the size. About two thirds (62%) of the sample were satisfied with the layout of the neighbourhood shopping area, but 17.3% were dissatisfied. Pilgrims showed a high proportion of satisfaction with both the adequacy of the city centre shops, and the shop prices. The percentage of satisfaction were 62.9% and 60.7% respectively. Also, 65.3% of the interviewed visitors were satisfied with the adequacy of their neighbourhood shops. The degree of satisfaction with the shop prices was less than that but still high 57.3%. The dissatisfaction percentage in both aspects was more than a quarter of the visitors. They were 27.6% and 30% respectively.

Islam is not just a religion but also a way of life; thus it considers the need of Mosque and also shopping area for businesses and trade. It even determines the degree of importance of those two main elements of the city and the neighbourhood.

Prophet (PBUH) said: *"The most loved places on earth to God are Mosques, and the most abhorred are market places"*.

Therefore the size of city/neighbourhood shopping area should satisfy the city/neighbourhood members without extremism or lack of moderation. These will maintain the balance between the city/neighbourhood members right of being satisfied with the adequacy of shops and their prices as well as sustaining reasonable profit to the merchants as members of society who have the right of having a satisfactory life.

Prophet (PBUH) went to a praying place and saw people trading, so he said: *"You merchants", so they responded and looked upward, he said "merchants will be resurrected as malicious except for those who are honest and righteous"*. Narrated by al-Tirmidhi, al-Tarhib wa al-Tarhib, Part Three, P.29.

The city/neighbourhood restaurants were one of the essential components of the shopping areas considering the lack of food provisions in the accommodations. The data collected show that visitors were 64% satisfied with the adequacy of the city restaurants. Similarly, about two third (65.8%) of the respondents were satisfied with the adequacy of their neighbourhood restaurants. On the other hand over a quarter (25.3%) of them said that they were not satisfied.

The importance of the number and adequacy of restaurants as determinants of the degree of satisfaction with the neighbourhood is in line with the emphasis of Islam on food for mankind as crucial for increasing the body's health. Islam determined the eating behaviour in both the house and restaurants.

Narrated 'Umar bin Abi Salama: I was a boy under Allah's Messenger (PBUH) and my hand used to go around the dish while eating. So Allah's Messenger(pbuh) said to me, "O boy! Mention the Name of Allah and eat with your right hand, and eat of the dish what is nearer to you." Since then I have applied those instructions when eating.(Sahih al-Bukhdri, Hadith No.288, Vol.7)

Islam is a way of live in terms of selecting food for eating. This selecting resulting from the importance of a healthy body.

Allah said: "They ask you (O Mohammed pbuh) what is lawful for them (as food). Say: " Lawful unto you are At- Taiyibar [all kind of Halal (lawful - good) foods which Allah has made lawful (meat of slaughtered eatable animals, milk products, fats, vegetables and fruits, etc.)]. And those beasts and birds of prey which you have trained as hounds, training and teaching them (to catch) in the manner as directed to you by Allah; so eat of what they catch for you, but pronounce the name of Allah over it, and fear Allah. Verily, Allah is Swift in reckoning" .Sura (5) al- Maidah verse(4).

Although the government gives the health of the pilgrims much attention by adding more temporary field clinics, it was surprising to notice that a high percentage (59.2%) of dissatisfaction with the adequacy of clinics in the city. Also, three -quarters of the pilgrims (74.6%) were dissatisfied with the adequacy of their neighbourhood clinic. This result might be attributed to the fact that pilgrims suffered from their journey to the holy land.

Considering the satisfaction indices of neighbourhood's internal characteristics in Table 8.5, we notice that all the variables show a high level of satisfaction ($HS : +0.6 > STI > +0.2$), except for the adequacy of the neighbourhood clinic where the level of satisfaction index was low ($STI = -0.528$).

Since the number of buildings and their height was different from one part of the neighbourhood to another (the number of the buildings and their height are greater the nearer the area is to al-Haram. A cross-tabulation of distance from al-Haram with number of building in the neighbourhood and height of the building was computed.

The result shows that the majority of visitors were satisfied with the number of buildings and their height when they were satisfied with the distance to al-Haram. The percentage were 40.9% and 47.9% respectively. We can say that visitors are looking forward to more high buildings. This actually may be attributed to the fact that they are suffering from the high occupancy of rooms compared to size, and they think that the only way of reducing this ratio is to have more rooms by building more high buildings.

8.4.2 The Effect of Attitudinal Differences on the Internal Characteristics

Cross-tabulations of the neighbourhood shop prices by differences in background, show that there was no significant influence of age, occupation, or educational status in the attitude to neighbourhood shop prices.

On the other hand the degree of satisfaction with neighbourhood shop prices seems to be influenced by the marital status. Data analysis shows that most of those who were dissatisfied with the neighbourhood shop prices were married (They represent 24.5% of the total sample). Also the most dissatisfied group with this aspect were those who were earn less than 1000 Saudi Riyals, (166.67 £) (19% of the total).

Also those who were dissatisfied with the adequacy of clinics were mostly married visitors (50.4%). Similarly the highest degree of dissatisfaction with this aspect were those with smaller monthly income.

8.5 The Roads and Pedestrian Walkways

The roads and pedestrian walk -ways were affected by the existence of the al-Haram as the core of the city. Actually we can say that al-Haram is isolated in the centre of the city by an open area 100 -150 meters wide in all directions except to the east where Abu Dhar street separates al-Haram from the cemetery of al-Bakya. Surrounding this area is the first ring road and then the second and third ring roads. Diagonal streets such as the new street of Bab al-Salam, King Abdulaziz street, King Fahad street and others connect the ring roads. The traffic flow increases mainly on Friday and at prayer time when the citizens of al-Madina want to pray in the Prophet's Mosque.

It was indicated that road size was relatively small in the old districts of al-Anabea and al-Sulamania compared with other districts. They also have irregular patterns of road layout. On the other hand, pedestrian ways are much larger in the old districts in the first ring than the other relatively new districts of the central area. The road size and layout affects the neighbourhood car traffic and safety. Therefore, we notice that, as the layout of the roads becomes irregular, the car traffic slows and road safety increases. But car parking and traffic jams are much worse in the old districts than in the new ones.

Although the neighbourhood pedestrian walkways are more distinct in the relatively new neighbourhood of the central area, they are usually along the two side of the streets. Therefore pedestrians feel safer walking in the districts of al-Anabea and al-Sulamania where the vehicle traffic is kept to the minimum and the road and pedestrian walkways are separated. In all districts pedestrian ways are not shaded, but the high ratio between the buildings and road size in the old parts of the city centre area creates shading for pedestrians. Seating areas are very few in both old and new neighbourhoods.

8.5.1 Satisfaction with Roads and Pedestrian Walk -ways

The majority of the visitors (45.1%) were satisfied with the city roads size. A similar percentage (44.9%) were also satisfied with the layout of those roads while 36% pronounced themselves as dissatisfied with the roads size and 30.8% said that they were not happy with the city roads layout (Table 8.6). However, over half of the sample (54.3%) were unhappy with neighbourhood roads size. On other hand over a third of the visitors (36.2%) pronounced that they were satisfied with the road size of their neighbourhood (Table 8.7). In contrast, most of the respondents (46%) were satisfied with the neighbourhood roads layout while those who were unhappy were 35.8%.

Half the pilgrims enjoyed the city road safety and only a quarter (26.6%) were unhappy with the road safety. This might affect the visitors' attitude towards the city traffic where 59.1% were satisfied and 27.1% were dissatisfied. Also 43% of the pilgrims were satisfied with neighbourhood road safety, although about a similar percentage (38.7%) were not. The survey shows that a high proportion of the visitors (57.3%) were satisfied with car traffic within their neighbourhoods. But still more than a third of them (37.4%) showed dissatisfaction with the car traffic. Overall, 44.4% of the respondents were satisfied with the city car parking, while a considerable number 38% stated that they were unhappy with it.

We notice how Islam shows transportation to be as determinant of man's happiness. Nevertheless the degree of satisfaction with the transportation depends on the road size, the layout of those road and the availability of parking space.

Although the main means of transportation has changed from camels and horses during the prophet time to buses and cars today, yet the Islamic principle which tells us that the way should be constructed at least seven cubits (approximately 4.5 m) in width, could be used as a standard model for the minimum width of streets in an Islamic community. The road width should, at the same time, follow other Islamic principles which emphasises not causing any harm to the society members such as dangers, breaking of privacy, social contact difficulty or environmental problems.

Table 8.6 Satisfaction with The city's roads and pedestrian walk-ways
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. The city roads size.	12.4	32.7	18.9	26.9	9.1	2.876	0.091 MS
2. The city roads layout.	6.9	38.0	24.2	26.4	4.4	2.836	0.14 MS
3. The city roads safety.	9.3	41.6	22.4	21.3	5.3	2.718	0.242 HS
4. The city car traffic.	16.2	42.9	14.8	22.4	2.7	2.564	0.32 HS
5. The city car parking.	8.2	36.2	17.6	31.1	6.9	2.922	0.064 MS
6. The city pedestrian walk-ways size.	11.1	25.1	12.2	41.1	10.4	3.147	- 0.154 MS
7. The city pedestrian walk-ways layout.	8.0	27.8	25.6	30.9	7.8	3.027	- 0.029 MS
8. The city pedestrian walk-ways shading.	3.8	21.3	24.7	35.8	14.4	3.358	- 0.251 LS
9. The city Road /pedestrian walk ways separation	8.9	25.8	15.6	36.9	12.9	3.191	- 0.151 MS
10. The city sitting area - adequacy.	5.3	21.1	14.2	45.6	13.8	3.413	- 0.329 LS
11. The city Sitting area - convenience.	3.6	21.3	16.9	42.2	16.0	3.458	- 0.333 LS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction +1 $\geq STI > +0.6$, 2) HS : high level of satisfaction +0.6 $\geq STI > +0.2$, 3) MS : medium level of satisfaction +0.2 $\geq STI > -0.2$ 4) LS : low level of satisfaction -0.2 $\geq STI > -0.6$ 5) VLS: very low level of satisfaction -0.6 $\geq STI \geq -1$

Table 8.7 Satisfaction with the Neighbourhood's roads and pedestrian walk-ways
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Neighbourhood roads size.	9.1	27.1	9.6	34.7	19.6	1.299	-0.18 MS
2. Neighbourhood roads layout	9.3	36.7	18.2	27.6	8.2	2.887	0.102 MS
3. Neighbourhood roads safety	13.3	30.0	18.0	24.7	14.0	2.960	0.046 MS
4. Neighbourhood car traffic.	16.4	40.9	5.3	29.6	7.8	2.713	0.2 MS
5. Neighbourhood car parking	8.0	27.3	15.1	35.3	14.2	3.204	-0.143 MS
6. Neighbourhood pedestrian walk-ways Size	27.1	4.7	0.4	39.6	28.2	3.371	-0.36 LS
7. Neighbourhood pedestrian walk-ways layout	8.0	21.7	19.6	34.9	16.0	3.293	-0.213 LS
8. Neighbourhood pedestrian walk-ways shading	4.7	11.8	2.9	51.8	28.9	3.884	-0.643 VLS
9. Neighbourhood road/ pedestrian walk-ways separation.	9.8	22.4	3.1	35.1	29.6	3.522	-0.325 LS
10. Neighbourhood sitting area adequacy	2.4	14.9	0.9	53.1	28.7	3.907	-0.645 VLS
11. Neighbourhood Sitting area convenience	0.4	14.2	0.7	57.3	27.3	3.969	-0.7 VLS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) *VHS* : very high level of satisfaction $+1 \geq STI > +0.6$, 2) *HS* : high level of satisfaction $+0.6 > STI \geq +0.2$, 3) *MS* : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) *LS* : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) *VLS*: very low level of satisfaction $-0.6 \geq STI \geq -1$

Narrated Abu Huraira: *the Prophet (pbuh) judged that seven cubits should be left as a public way when there was a dispute about the land.*(Sahih al-Bukhari, Hadith No.653, Vol.3)

The observation of car traffic and road safety as pinpoints of city/neighbourhood road satisfaction is occasioned by the emphasis of Islam on not causing harm to ourselves and to other members of the community. Consequently, city car traffic and particularly within the neighbourhood should conserve the quietness and the health of the neighbourhood residents.

As one would expect, the visitors were disappointed with city pedestrian walk ways' size, layout and shading. The percentage were 51.5%, 38.7% and 50.2% respectively. On the other hand, satisfaction was shown by 36.1% for the size, 35.8% for layout and 25.1% in terms of shading. Also, the majority of the interviewed pilgrims (67.8%) were dissatisfied with their neighbourhoods' pedestrian walkway size. The other third (31.8%) were satisfied. The survey data indicates that about half of the sample (50.9%) were dissatisfied with their neighbourhoods pedestrian walkways layout. The satisfactory portion was about one third of the sample (29.6%). Also the majority of the visitors (80.7%) were unhappy with the shading of these walk-ways.

Regardless of whether they were satisfied or dissatisfied with aspects of pedestrian walk ways, respondents were asked to give their impression of the separation of the roads and pedestrian walk ways. At the city level, the majority of the answers (49.8%) were dissatisfied with the degree of separation, while 34.7% indicated that they were satisfied. Also, this problem can be deduced from the answers of the respondents at the neighbourhood level. The data shows that the majority of the visitors (64.7%) were dissatisfied with this separation between roads and the pedestrian walk -ways within their neighbourhoods.

The above results reflect that walking is considered in Islam as the best way of movement especially at neighbourhood level once it does not show pride or showing-off. More reward will be given to those who walk in humility and sedately. This might

be related to the fact that physicians today confirms that walking is the most beneficial and healthy exercise of the body.

Allah said: *"And the slaves of the Most Beneficent (Allah) are those who walk on the earth in humility and sedateness, and when the foolish address them (with bad words) they reply back with mild words of gentleness. Sura 25 al-Furqan verse 63.*

Narrated Abu Huraira heard Allah's Messenger (PBUH) saying, : *"If (the Iqama of) As-Salat (the compulsory congregational prayer is pronounced) is started, do not run but just walk for it calmly and pray whatever you get, and complete whatever is missed."* (Sahih A Bukhari, Hadith No.31 Vol.2)

Therefore, pedestrian walk-ways, size, layout and shade and separation from roads should support those Islamic principles to satisfy the accommodation in the city in general and specifically within the neighbourhood.

Also the survey shows that most of the pilgrims (81.8%) were dissatisfied with the adequacy of their neighbourhood seating areas. A similar percentage (84.6%) was unhappy with the convenience of these seating areas. The need of adequate and convenient neighbourhood seating areas were arises from the highlighting of Islam in communicating with other members of the community to maintain the unity and strength among them. It is also a consequence of the Islamic presentation to some of the neighbourhood rights such as privacy and safety.

Prophet (PBUH) said: *"you are not allowed to sit on the roads", they said: "but we need to sit around the roads to discuss our affairs". The Prophet said: "if you have to, then you should respect the rights of the road". They asked about that, the Prophet answered: "To lower your gaze, not to harm others, to salute and greet others, to spread around good deeds and to prevent misdeeds".* Agreed upon, Riyadh al-Salihin, P.103, serial 190.

Computing of the satisfaction indices shows that none of the variables of the neighbourhood's roads and pedestrian walk way indicated a very high or high level of satisfaction indices (i.e. $STI > +2$).

The degree of satisfaction with roads and pedestrian walkways is affected by the distance to al-Haram, since this distance affects the traffic type and density. Therefore we investigated the relationship between the degree of satisfaction with the neighbourhood roads size and the degree of satisfaction with the distance to al-Haram through a cross-tabulation. The result shows that more than half of the visitors (53.1%) were dissatisfied with the neighbourhood roads size while they were satisfied with the distance to al-Haram. This might be due to the fact that neighbourhoods near to al-Haram (al-Anabea and al-Sulimanea) are those which are the oldest in their planning layout, and they were built before the increased numbers of cars.

Another unexpected result is from the cross-tabulation of the neighbourhood pedestrian walkways size by the distance to al-Haram, which shows that 56.9% of the visitors were dissatisfied with the neighbourhood pedestrian walkways size and satisfied with the distance to al-Haram. We believe that this result may be attributed to the fact that overcrowding increases as the distance to al-Haram decreases.

8.5.2. The Effect of Attitudinal Differences in the Roads and Pedestrian Walk-ways

Cross-tabulations of the degree of satisfaction with the neighbourhood's roads safety by the pilgrims background, shows that this aspect seems to be influenced only by the age of the respondents. As expected, data analysis indicated that those who were over 31 years old were more dissatisfied with the neighbourhood roads safety compared with those who were less than 31 years old. The percentages were 36.7% and 2.2% respectively.

On the other hand, satisfaction with the neighbourhood pedestrian walkways shading seems to be influenced by most of the attitudinal differences. For example, over three quarters of the respondents (75.5%) who were dissatisfied with the neighbourhood pedestrian walkways were over 31 years old. Also 43.1% of the whole sample who were dissatisfied with this aspect were employed.

8.6 The Public Facilities and Services

Although the most common means of transportation in al-Madina are private cars for the relatively distant areas in the city and walking for those who stay at a short distance, specially within al-Haram Area, the public transportation facilities have improved since the establishment of the Saudi Public Transportation Company (Sapteco). The company which uses air-conditioned buses designed in two sections, one for females and the other for males (for privacy reasons), connects the main districts of the city as well as providing services to and from other cities. Also taxis or limousines are available between the different parts of the city, the airport and other cities. Buses are the main means of public transport between the accommodation and areas outside the central area such as the seven mosques area and the pilgrims city. The cost of visiting these places is considered mostly as part of the package cost. Pilgrims used taxis for other types of visit, but there are no specific taxi parking lots.

The public telephones as mentioned in Chapter 3 have been improved with the programme of international private booths which are mainly located near al-Haram. The neighbourhood public telephones are mainly located on the main roads, or near the shopping areas. Similarly, temporary post offices in addition to the main ones are found in certain areas around al-Haram. These offices are mainly used by the non-Saudis who live in the city or by the visitors to the city, since the Saudi citizens prefer to use the telephone as a faster communication system.

Furthermore, Public toilets are mainly found near each mosque in the city, yet some of these toilets need more maintenance. Furthermore, drinking water fountains provided as a charity can be found near the city mosque or attached to the outer walls of some buildings.

The main streets of the city are lighted with either wall mounted lamp standards or lighting towers. The city, which is supplied with electricity mainly from Uanbu and Rapegh, suffers from the sudden increase in consumption of electricity during the pilgrimage season. This shortage was solved by connecting the city with the network

of other cities of the Kingdom which allows the transfer of unused electricity from other cities to al-Madina. Also, most of the neighbourhood areas around the prophet mosque are lighted.

8.6.1.Satisfaction with the Public Facilities and Services

Pilgrims were almost equally divided with regard to those who were satisfied (39.2%) and dissatisfied (43.4%) with the city public transportation facility (Table 8.8).

However, over one third of the respondents (36.9%) were satisfied with the neighbourhood public transportation facilities, but about majority of them (51.1%) were dissatisfied with these facilities (Table 8.9). With the enlargement of the city, the distance between relatives and friends increases. Also the house became distant from Mosques and shopping. Consequently, the public transportation facilities becomes an important factor of satisfaction within the city, especially if we consider the dissatisfaction of traffic jams caused by private cars.

Half of the interviewed visitors were dissatisfied with both the city public telephone service 47.8% and the city post offices (50.2%). The survey shows that, those who were satisfied with the public telephone service (35.8%) outnumbered those who were satisfied (30.9%) with post offices. In regard to the same questions at the neighbourhood level, the study shows that a high proportion of the interviewed visitors (62%) pronounced that they were dissatisfied with their neighbourhoods provision of public telephones. But still, over a third (35.6%) enjoyed this service. About a quarter of the pilgrims (26%) were satisfied with their neighbourhood post office. The other 73.8% were dissatisfied.

Because of the need for public toilets, in the case of a city which receives high numbers of visitors at one short time of the year, we included a question to investigate the attitude of the visitors toward the provision of this facility. At the city level, pilgrims were divided almost equally between those who were satisfied (39.8%) and those who were dissatisfied (42.8%). However, the result as might be expected shows that only 31.8% were satisfied with the public toilets within their neighbourhoods.

Table 8.8 Satisfaction with The city's Public Facilities and Services
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. The city Public transportation facilities.	8.5	30.7	17.4	34.7	8.7	3.045	- 0.042 MS
2. The city Public telephones.	8.2	27.6	16.4	38.0	9.8	3.136	- 0.12 LS
3. The city post offices.	6.9	24.0	16.0	43.6	9.6	3.249	- 0.222 LS
4. The city Public toilets.	8.0	31.8	17.3	32.4	10.4	3.056	- 0.031 MS
5. The city drinking water fountains.	11.8	41.3	14.2	22.9	9.8	2.776	0.204 LS
6. The city lighting.	12.4	50.7	16.9	16.7	3.3	2.478	0.431 HS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) *VHS* : very high level of satisfaction $+1 \geq STI > +0.6$, 2) *HS* : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) *MS* : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) *LS* : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) *VLS*: very low level of satisfaction $-0.6 \geq STI \geq -1$

Table 8.9 Satisfaction with the Neighbourhood's Public facilities and services
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Neighbourhood public transportation facilities.	11.1	25.8	12.0	34.7	16.4	3.196	-0.142 MS
2. Neighbourhood public telephones	8.4	27.1	2.4	42.4	19.6	3.376	-0.264 LS
3. Neighbourhood post offices	3.1	22.9	0.2	52.0	21.8	3.664	-0.478 LS
4. Neighbourhood public toilets	8.2	23.6	10.2	39.8	18.2	3.362	-0.262 LS
5. Neighbourhood drinking water fountains	17.3	35.1	6.9	30.0	10.7	2.816	0.117 MS
6. Neighbourhood lighting.	20.0	41.1	2.2	28.2	8.4	2.640	0.244 HS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

The emphasis of Islam in performing public prayer and its stress on health and cleanness, creates the need for the public toilets as enhancing the satisfaction of people with the city and the neighbourhood. Islam prohibits urinating in the middle of the road or in the shade.

Prophet (PBUH) said: *"Beware the two damned". They asked "what are the two damned, he said: "He who uses the middle of the road for toileting or in the shade". Narrated by Muslim, Riyadh al-Salihin, P.667, serial 1769.*

The greatest use of toilet water is during the praying time, therefore locating these toilets near the Mosque will satisfy the majority of the users.

Prophet (PBUH) said: *"Place the ablutaries at the entrances." (Outside the mosque).* Narrated by ibn Mayah.³

The two main facilities that the pilgrims were much happier with in their neighbourhoods were the neighbourhood drinking water fountains and the neighbourhood lighting. The percentages of satisfaction were 52.4% and 61.2% respectively. But still a considerable proportion of the interviewees were unhappy with these services which were 40.7% in terms of drinking fountains and 36.6% in regard to neighbourhood lighting.

Islam describes lighting as if it represents the right direction and guidance. Therefore it is important for our convenience to know our direction during night time. Moreover al-Madina is called al-Madina al-Minawarah, which literally mean (The Lighted City) as if it was lighted by the Prophet, since his grave is located there.

8.6.2 The Effect of Attitudinal Differences in the Neighbourhood's Public Facilities and Services

Data analysis shows that the degree of satisfaction with public transportation facilities seems to be influenced by age, marital statues and monthly income. Accordingly, cross-tabulation shows that about half of the respondents (48%) who are dissatisfied with the neighbourhood's public transportation facilities are over 31 years old.

³ Al-Hadith al-sharif (1991) (a CD Computer programme).OP.Cit

8.7 The Socio - cultural Environment

al--Madina is characterised by its original tribal social environment, thus the majority of population are from *Harb* tripe. This tribal encouraged social relationships within the city areas as well as between the city and the surrounding villages. Also Saudi citizens are characterised by social communication with others even if they are from different tribes. This relationship can be related to neighbourliness, friendship, or between colleagues with the same work or interests. The non - Saudis socialise by visiting the same nationality group. Nevertheless, the biggest generator of the good socio-cultural environment of the city is the belief of its residents that a good relationship with other members of society is part of our duty as Muslim.

Due to the limited time that the visitors spend in the city, the response to the social character and co-operation of residents within the neighbourhood is minimal. The layout of the old neighbourhoods creates greater visual privacy than the relatively new ones. Also the narrow roads of the central parts of the older neighbourhoods give these areas much protection from sound, due to the minimum traffic penetration.

Moreover this separation of pedestrians from heavy and fast traffic creates a much greater feeling of safety when walking in the old neighbourhood areas. In contrast fire fighting trucks face more difficulty in reaching buildings in these areas. To avoid the problems in these areas the department of fire fighting uses motorcycles fitted with fire extinguishers.

8.7.1 Satisfaction with the Neighbourhood's Soico - cultural Environment.

Most visitors (44.7%) were satisfied with the city's social character, though a quite considerable number (32%) said that they were dissatisfied. The majority of the respondents (about 7 in 10) were satisfied with the city's safety and security (Table 8.10).

Table 8.10 Satisfaction with The city's Socio- Cultural Environment
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. The city social character	4.0	40.7	23.3	25.8	6.2	2.896	0.127 MS
2. The city safety and security	18.4	51.3	22.2	6.7	1.3	2.211	0.618 VHS
3. The city entertainment facilities - adequacy	6.2	38.9	37.1	13.8	4.0	2.704	0.273 HS
4. The city entertainment facilities - convenience	8.7	34.2	25.3	16.4	5.3	2.756	0.211 HS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

At the neighbourhood level, the result shows that over half of the respondents (53.8%) were dissatisfied with the neighbourhood's social character. Another 29.8% were happy with its character (Table 8.11).

Islam determines the degree of relationship with others, starting from respecting the parent then relatives up to the neighbour. Yet stress on enhancing the social character spreads from the neighbourhood's level to cover the whole society within the city and all parts of the earth.

The confirmation of Islam in all aspects of the neighbourhood's rights is the main determinant of the satisfactory socio-cultural environment. Actually these rights were shown in very great detail to ensure the best life for all members of the community.

Prophet (PBUH) said: *"He who avoids his neighbour for fear for his family or wealth, is not a believer; nor a believer is he who his neighbour cannot feel safe around him. Do you realise what are the neighbour rights? If he seeks your help you'll grant him so; if he borrow your money, you may so; if he becomes poor, you'll see how you can help; if he falls sick, you'll pay him a visit; you'll share his good and bad times; you will not rise high your building so as not to block fresh air from him unless you're permitted to do so; you'll share your food with him especially those with strong aromas; and you will not go around with your fruits unless you'll share it with him".* Narrated by al-Khara'eti, Makarim al-Akhlaq, Transmitted on solid basis, al-Targhib wa al-Tarhib, Part Three, P.236.

Privacy within the neighbourhood level was investigated through two questions relating to both visual and audible privacy. The majority of the respondents were dissatisfied with neighbourhood audible privacy (38.4%) while the percentage of satisfaction was 31.8%.

Conserving the privacy of neighbourhood's members is considered the most important factor to influence the socio-cultural environment of the neighbourhood. Hence, no wonder that Islam stresses maintaining the privacy of others.

Table 8.11 Satisfaction with Neighbourhood's Socio- cultural environment
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. Neighbourhood social character	6.0	23.8	26.4	26.7	17.1	3.251	-0.14 MS
2. Type of neighbours/co-residents within the neighbourhood.	10.0	23.8	32.9	27.1	6.2	2.958	0.005 MS
3. Neighbourhood visual privacy	13.6	32.9	38.2	12.9	2.4	2.578	0.311 HS
4. Neighbourhood audible privacy	8.2	23.6	28.9	33.8	5.6	3.049	-0.075 MS
5. Neighbourhood safety and security	32.9	49.6	12.7	3.1	1.8	1.913	0.775 VHS
6. Neighbourhood entertainment facilities/ adequacy	8.7	22.7	43.6	16.0	9.1	2.942	0.062 MS
7. Neighbourhood entertainment facilities/ convenience	11.6	21.6	40.0	18.9	8.0	2.902	0.062 MS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

Allah said: *"And when you ask (his ladies) for anything you want, ask them from before a screen: that makes for greater purity for hearts and for their...."* Sura Slizab or the verse 53.

And The Prophet (PBUH) said: *"He who believes in Allah and the Doomsday should not be meeting a woman separately without a first degree kin, otherwise the devil will be the third person attending."*⁴

Respondents were mostly (82.4%) satisfied with neighbourhood safety and security. Those who were unhappy with this aspect represented only 4.9%. Islam underlines the security of another Moslem through forbidding harming him in his blood, money and family. Consequently, protecting the city safety and security are considerable factors of satisfaction with the city.

Prophet (PBUH) said: *"He whom his neighbours don't feel secure and safe from his side, will never enter Heaven"*. Narrated by Tabarani on the behalf of Ka'ab ibn Malik and warranted by Muslim.⁵

The computing of the satisfaction indices level shows that neighbourhood safety and security was the only variable which demonstrated very high level of satisfaction ($STI = 0.775$). The remaining variables (5 out of 7) representing the socio-cultural environment of the neighbourhood showed a moderate satisfaction indices level ($MS : +0.2 > STI > -0.2$).

The degree of satisfaction with one element of the socio-cultural environment may be influenced by the degree of satisfaction with other factors. For example we found that, 32.9% of the visitors were dissatisfied with the neighbourhood's audible privacy and at the same time dissatisfied with the neighbourhood's social character.

8.8 The Aesthetic Values (Appearance, Cleanliness, and Landscaping)

The Islamic aesthetic values were neglected in the relatively new neighbourhoods, except some mosques. With the increasing number of visitors in the season, Amanit

⁴ al-Hadith al-Sharif (1991), (CD Computer programme). OP. Cit.

al-Madina tried to maintain the general cleaning of the city by approving city cleaning contract which increase its operation time during the pilgrimage seasons up to 24 hours a day. This contract includes cleaning of the villages around the city which are located on the pilgrims ways to the city.

The agricultural characteristic of al-Madina help in maintaining the landscaping of the city. Nevertheless, the needs of urbanisation led to clearing most of old green area of the city (especially, in the neighbourhoods around al-Haram where the land value is high). The government is trying to subsidised those area by planting along the streets and stabilising numbers of parks in different areas of the city. In this respect the new Central Park has been established lately to double the city recreational areas.

8.8.1 Satisfaction with the Aesthetic Values (Appearance, Cleanliness, and Landscaping)

Data collected indicates that the majority of visitors (53.6%) were satisfied with the city's appearance. On the other hand about a third of them (31.3%) were unhappy (Table 8.12). With regard to the similar question, the sample was nearly divided equally between those who enjoyed these aesthetic values in their neighbourhoods and those who did not. 52.7% were satisfied with their neighbourhood's appearance as opposed to 40.2% dissatisfied (Table 8.13). Similarly under half of the respondents (48.4%) were satisfied with the cleanliness of the city. But still quite a considerable number (40%), were dissatisfied. Where, 47.6% of the sample were satisfied with the cleanliness of their neighbourhoods, and 48.6% were dissatisfied.

Islam gives special prominence to the aesthetic value of the living environment. It even promises those who preserve the appearance and cleaning of this environment, happiness not just in their life but also in the hereafter.

Prophet (PBUH) said: *"I've seen a man enjoying happiness in heaven, because he removed a tree from the middle of the road that used to bother Muslims"*. Narrated by Muslim, (al-Targhib wa al-Tarhib, Part Four, P.36.)

⁵al-Hadith al-Sharif (1991). OP. Cit.

Table 8.12 Satisfaction with The city's Aesthetic values (Appearance, Cleanliness, and Landscaping)
(Percentage Distribution)

Aspects	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5	Mean Scores*	Satisfaction index** STI
1. The city appearance.	13.1	40.4	15.1	24.9	6.4	2.711	0.223 HS
2. Cleanliness of the city.	15.1	33.3	11.6	28.0	12.0	2.884	0.084 MS
3. The city landscaping.	9.6	36.4	12.0	28.4	13.6	3.000	0.04 MS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

Table 8.13 Satisfaction with Neighbourhood Aesthetic Values (Appearance, Cleanliness, and Landscaping)
(Percentage Distribution)

Aspects	Satisfaction Level					Mean Scores*	Satisfaction index** STI
	Very Satisfied 1	Fairly satisfied 2	Neither Satisfied Nor Dissatisfied 3	Fairly Dissatisfied 4	Very Dissatisfied 5		
1. Neighbourhood appearance	19.8	32.9	7.1	29.1	11.1	2.789	0.125 MS
2. Cleanliness of neighbourhood.	12.4	35.1	3.8	33.3	15.3	3.040	-0.011 MS
3. Neighbourhood landscaping	9.8	32.1	9.4	28.1	20.7	3.178	-0.069 MS

* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

The stress on cleanness is even more in al-Madina, the city called by the Prophet "*Tayabah*" which mean literally good.

Narrated Zaid bin Thabit The Prophet (PBUH) said, "*It (i.e.al-Madina) is Tayabah (good), it removes impurities as the fire removes the impurities of silver.*"⁶

Therefore, both the city appearance and cleanness are important aspects of satisfaction with the city.

Respondents were almost equally divided as to whether they were satisfied (46%) or dissatisfied (42%) with the city landscaping. Again 41.9% of the respondents were happy with the landscaping of their neighbourhood and 48.7% were unhappy. Actually, Islam encourages people to harvest and plant.

Prophet (PBUH) said: "*No believer plants a plant to sustain men, birds, or animals unless he deserves God's charity*" Narrated by Anas ibn Malik.

Even planting and landscaping of al-Madina get special highlighting when the prophet asked Allah blessing for it.

Narrated 'Abdullah bin Zaid : The Prophet (PBUH) said "*The Prophet Ibrahim (Abraham) made Makka a sanctuary, and asked for Allah's Blessing in it. I made al-Madina a sanctuary as Ibrahim made Makka a sanctuary and I asked for Allah's Blessing in its measure - the Mudd and the Sa (Two traditional scales containers used for measuring the seeds, especially when paying the charity) as Ibrahim did for Makka.*" (Sahih al-Bukhari, Hadith No.339, Vol.3)

Consequently, aesthetic value is considered as one of the designating factors of the degree of satisfaction with the city.

It was clear from the calculated satisfaction indices that all of the three variables representing the aesthetic values of the neighbourhood showed a moderate level of satisfaction ($MS : +0.2 > STI > -0.2$).

However, the question might be raised "Is the level of satisfaction with these variables influenced by the period of the neighbourhood?". Therefore, we examined the

difference between the aesthetic values of the old neighbourhoods (near al-Haram) and the new neighbourhood by making a cross-tabulation of neighbourhood appearance with the distance from al-Haram. The result shows that the visitors were more satisfied with the neighbourhood's appearance when they were satisfied with the distance from al-Haram (neighbourhoods near al-Haram) than when they became dissatisfied with the distance from al-Haram (neighbourhoods far from al-Haram). The percentages were 42.5% and 7.4% respectively.

Moreover 48.2% were dissatisfied with the cleanliness of their neighbourhoods while they were satisfied at the same time with the distance of their neighbourhoods from al-Haram. Also a similar percentage (48.3%) was dissatisfied with the neighbourhood landscaping while they were satisfied with the distance from al-Haram.

On the other hand, the highest cross-tabulation percentage between the neighbourhood appearance and the layout of the neighbourhood was 29.3%, when the visitors were satisfied with both appearance and layout.

8.9 General Degree of Satisfaction with the Neighbourhood and the City.

To investigate the general attitude of the visitors toward the prophet city, the interviewees were asked to sum up their feelings as a visitor about living in al-Madina. The result indicated that the majority of them (88.9%) were satisfied generally with living in the city (Table 8.14). An explanation for this may be the fact that, whatever the physical conditions of the city, Muslim love to stay in the prophet city which contains the Prophet's Mosque, and his grave, and which was the first Islamic capital. However, in general two third of the visitors (66.2%) were dissatisfied with their neighbourhoods. Only a quarter of them (24.9%) were satisfied with the neighbourhood. Therefore the level of satisfaction index of the general feeling with the neighbourhood was low ($STI = -0.413$) (Table 8.15).

⁶ al-Hadith al-Sharif (1991), (CD Computer programme). OP. Cit.

Table 8.14 General Satisfaction with Al Medina
(Percentage Distribution)

Aspects	Very Satisfied	Fairly satisfied	Neither Satisfied Nor Dissatisfied	Fairly Dissatisfied	Very Dissatisfied	Mean Scores*	Satisfaction index** STI
	1	2	3	4	5		

My feeling as a visitor toward living in Al Medina, generally is	52.0	36.9	6.9	2.9	1.3	1.647	0.847 VHS
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* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

Table 8.15 General Satisfaction with The Neighbourhood
(Percentage Distribution)

Aspects	Very Satisfied	Fairly satisfied	Neither Satisfied Nor Dissatisfied	Fairly Dissatisfied	Very Dissatisfied	Mean Scores*	Satisfaction index** STI
	1	2	3	4	5		

My feeling as a visitor toward living in the neighbourhood where my present residence is located, generally is	7.3	17.6	8.9	48.4	17.8	3.518	-0.413 LS
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* Mean ratings are based on scores of 1 for "very satisfied" and 5 for "very dissatisfied". ** The five regions of satisfaction indices as framework for interpreting level of satisfaction are : 1) VHS : very high level of satisfaction $+1 \geq STI > +0.6$, 2) HS : high level of satisfaction $+0.6 \geq STI > +0.2$, 3) MS : medium level of satisfaction $+0.2 \geq STI > -0.2$ 4) LS : low level of satisfaction $-0.2 \geq STI > -0.6$ 5) VLS: very low level of satisfaction $-0.6 \geq STI \geq -1$

8.9.1 The Effect of Attitudinal Differences in the Visitors Summing up Feeling about Living in al-Madina and their Neighbourhoods

Most of the visitors (61.2%) who showed general dissatisfaction with life in their neighbourhoods were over 31 years old, compared with only 4.9% of the total sample under 31 years. Moreover, it seems that most of those who were dissatisfied generally with their life in the neighbourhood (46.4%) had reached more than the intermediate level of education. Also the data analysis shows that 54.9% of the visitors who were dissatisfied with this aspect were married. Furthermore, those who summarised their feeling about living in the neighbourhood as unsatisfactory (36.5%) were the ones with up to 1000 Saudi Riyals (£166.67).

8.10 Summary of the Findings

The investigation of the degree of satisfaction with aspects of the Prophet's City shows that, the most satisfactory aspect of the city is the development of al-Haram. Our findings indicate a high percentage of satisfaction with al-Haram's size, activities, structure, furniture, ventilation, natural light, insulation, privacy both visual and audible, safety and security, and the provision of public toilets and ablution areas. Also we can notice that the feeling of some pilgrims about their neighbourhood influenced their answer at the city level. This might be due to their belief that their neighbourhood is a sample of the whole city. As we noticed, the degree of satisfaction with the neighbourhood's location and accessibility was more or less the same as the satisfaction with the accommodation's location and accessibility to both al-Haram and shopping area. Although the overwhelming majority of respondents travel on foot within the central area, they enjoy the accessibility to public transport.

The visitors considered the city centre shops and restaurants sufficient and adequate, but a large number indicated that the clinics of the city were inadequate, although additional health centres were set up to offer health services for pilgrims free of charge.

Respondents were almost equally divided between those who were satisfied and others who were dissatisfied with city roads' size and layout. Moreover, they disliked the city road safety, and its traffic. It is quite clear that the survey confirms the assumption of greater satisfaction of pilgrims occupying buildings near al-Haram about roads and pedestrian walkways than those living in areas quite a way from al-Haram. This could be attributed to the fact that pedestrians felt safer in area close to al-Haram where fast and heavy traffic is restricted. But on the other hand those who live far from al Haram enjoyed the road width , layout and car parking more than the others.

The most frequent problems that pilgrims faced among the public facilities and services were with the public telephone services and the post offices. On other hand the two most satisfactory services were found to be the drinking water fountains and the lighting. Respondents were almost equally divided in term of their degree of satisfaction with the city public toilets, because they included the new public toilets of al-Haram.

Our results indicated a higher percentage of satisfaction about the neighbourhood appearance and cleanliness than its landscaping. These findings supported the assumption that the land is too limited and valuable to designate part of it for landscaping purpose; but actually one of the key problems of the development of the city is the replacing of the green areas with high buildings.

CHAPTER 9 The Effect of Nationality in the Accommodation Characteristics and the Degree of Satisfaction

9.1 Introduction

As mentioned, a selection of the accommodation of pilgrims was mostly done by the pilgrims' delegations rather than the pilgrims themselves. However, because this study involved a wide range of nationality groups, an analysis was needed to examine the degree of differences among them in terms of accommodation characteristic and satisfaction level. This chapter aims to investigate the effect of nationality on the satisfaction of the pilgrims with their accommodation. First the accommodation characteristics, the bedrooms characteristics, the toilet's characteristics, and the kitchens characteristics of each nationality were studied. These characteristic were ranked by their mean indices, then a total ranking order was calculated to investigate the difference in the nationalities accommodation. The second part of the chapter examines the effect of nationality on the degree of satisfaction with the accommodation in general, the bedrooms, the toilets and the kitchens. It is hoped that this will give a better understanding of what each nationality is experiencing and how we can provide them with suitable accommodation in the future. The chapter concludes with a brief summary.

9.2 Nationalities and Accommodation Characteristics

Each sample building was occupied by one nationality. This gives the opportunity to investigate if there is any pattern of selection for these building by nationality based on their characteristics. The investigation of the change in the characteristics by nationality was carried out for the accommodation in general, as well as the bedrooms, the toilets and the kitchens.

9.2.1 Accommodation Characteristics by Nationalities

Although the number of sample buildings varied among nationalities, a comparative analysis was carried out for nationalities in ten general characteristics of their accommodation¹. As in table 9.1, the analysis involves building use type, number of residential storeys, number of pilgrims, sleeping area, number of rooms per building, sleeping area per storey, number of rooms per residential storey, number of pilgrims per storey, building style and distance of building from al-Haram.

The table shows that the average building use for the entire sample is 1.71 which indicates that the majority of buildings are the residential / commercial type rather than residential buildings. The Egyptians, British, Turkish and Syrians have the largest mean building use, as their accommodation is nearer to the commercial activities than other nationalities. In contrast, Indonesians and Pakistanis mostly live in wholly residential buildings.

Comparing the existing buildings with the new development, we understand that pilgrims consider the increase in residential storeys as a positive point. Therefore, we rank the nationalities with the highest mean number of residential storeys as those with the best score. Accordingly, Egyptian, Turkish and Syrian buildings have the highest number of residential storeys (above six). Omani, Pakistani and Indonesian buildings have the lowest average number of residential storeys.

The increasing number of pilgrims per building results in problems of overcrowding and lack of accessibility to building services, therefore, the greater the number of pilgrims the more disadvantaged the building characteristics. Correspondingly, the Senegalese, Pakistani, and Egyptians have the lowest number of pilgrims per building, where the Syrians have the highest number.

¹ The analysis will only involve the selected 40 buildings (50% of the total sample building) that was been discussed in chapter 6.

Table 9.1 Rank-ordering of Nationalities/Building's Characteristics Mean Indices

Based on (Mean values)

Nationality	Building Use Type *		Building Style **		Building Distance From Al Haram ***		Number Of Residential Storeys		Number Of Pilgrims		Sleeping Area		Building Rooms Number		Sleeping Area Per Storey		Number Of Rooms Per Residential Storey		Number Of Pilgrims Per Storey		Rank - ordering Mean Indices	
	M	R↑	M	R↑	M	R↓	M	R↑	M	R↓	M	R↑	M	R↑	M	R↑	M	R↓	M	R↓	Score	R↓
Egyptian	2.0	1	1.5	1	1.5	3	7.0	1	196.5	3	499.3	9	57.5	5	72.9	10	7.8	5	28.7	2	40	1
Turkish	2.0	3	1.7	4	2.0	7	7.0	2	404.0	9	1024.0	3	68.0	1	167.4	5	9.4	7	66.2	7	48	2
Senegal	1.5	9	1.5	2	1.5	2	6.0	4	171.0	1	430.2	11	30.0	11	71.5	11	4.4	1	28.6	1	53	3
British	2.0	4	2.0	7	1.5	1	5.3	6	344.0	6	860.9	6	65.5	2	161.4	6	10.8	11	64.5	6	55	4
Syrian	2.0	2	1.7	5	2.7	11	6.2	3	679.3	11	1693.0	1	64.7	3	302.2	1	10.5	10	121.1	11	58	5
Algerian	1.7	7	2.0	8	2.0	5	5.0	7	275.3	4	688.3	8	36.7	10	131.5	8	6.7	2	52.7	4	63	6
Bengali	1.8	5	2.0	9	2.2	10	5.4	5	483.6	10	1208.5	2	60.4	4	212.7	3	9.7	8	85.1	9	65	7
Indian	1.7	6	1.8	6	2.2	9	4.8	8	379.8	7	941.6	5	45.8	6	183.9	4	8.5	6	74.1	8	65	8
Indonesian	1.3	11	1.5	3	2.0	8	4.8	9	287.8	5	727.4	7	37.3	9	148.5	7	7.0	3	58.8	5	67	9
Pakistani	1.3	10	2.0	10	2.0	4	4.7	10	185.3	2	467.8	10	37.3	8	103.2	9	7.5	4	40.9	3	70	10
Omani	1.5	8	2.0	11	2.0	6	4.3	11	390.5	8	976.0	4	43.0	7	248.7	2	9.8	9	99.7	10	76	11
Total (mean)	1.71		1.79		1.96		5.48		345.2		865.16		49.65		163.99		8.36		65.49			

M = Mean within the Building Characteristic

R ↑ = Rank of Nationality in the Specific Building Characteristic (Rank is Based on the Best Score for the Highest Mean).

R ↓ = Rank of Nationality in the Specific Building Characteristic (Rank is Based on the Best Score for the lowest Mean)

* Building use ratings are based on 1 for "Residential building" and 2 for Commercial / Residential building

** Building style ratings are based on 1 for "apartment style" and 2 for "hotel style".

*** Building distance from AL Haram ratings are based on 1 for "close = less than 500 m", 2 for "neither = 500 to 750 m" and 3 for "far = more than 750 m"

Table 9.1 shows that nationalities have almost the same mean (M) for both the number of pilgrims and sleeping area. This indicates the significance of the standard sleeping area per pilgrims (2.5 m^2 / pilgrim) which leads to this strong relationship between those two characteristics. However, the consideration of the increasing number of pilgrims per building as a disadvantage and the increase in sleeping area per building as an advantage results in ranking the nationalities by the second characteristic as the opposite of the first one. The Syrian group is the best nationality in terms of sleeping area per building, whereas the Senegalese, Pakistani and Egyptians have the lowest mean of sleeping area per building. Classifying the nationalities in terms of sleeping area per residential storey gives us the same ranking result as the sleeping area. This might be a result of both the ranking of number of pilgrims of each nationality and the standard sleeping area per pilgrim. This shows that a typical design was used for the residential storeys of each building.

Pilgrims consider a high number of rooms per buildings as an advantage since they suffer from overcrowding in their rooms. Therefore, nationalities with the highest number of rooms are considered the best in ranking by this character. The Turkish and British have the highest room numbers (mean = 68 and 65.5 rooms/building respectively). On other hand, the Senegalese have the lowest mean building number (30 room/building). Since the majority of the sample is apartment style (32 out of 40) the increase in rooms, at the storey level, is considered as a disadvantage since it reduces the opportunity of using shared services. Therefore, the Senegalese, with an average of 4.4 rooms / residential storey, are considered as the best group, whereas the British and the Syrians, with an average above 10 rooms / residential storey, are considered as the worst.

From previous analysis in Chapter 5 we notice that the hotel style building is considered as more desirable than the apartment style due to the chance of having more private services. Accordingly, Egyptians, Senegalese and Indonesians have the best ranking order since they seem to have more hotel style buildings than other nationalities. Whereas, nationalities such as Omani, Pakistani, and Algerian live only in apartment style buildings.

The groups which have most of their buildings near al-Haram are the British, Senegalese and Egyptians, whereas Syrian accommodations were furthest from al-Haram.

Summing up the ranking order, the Egyptian, Turkish, Senegalese and British have the best building characteristics (score ≤ 55). On the other hand, Omani, Pakistani, Indonesian, Bengali, Indian are the nationalities with the worst building characteristic (score ≥ 65). This result may be attributed to the value of the currency of each nationality compared with Saudi Riyals. People from Pakistan, Indonesia, Bengal, and India might be rich in their countries where they can get the best services cheaply, but their income does not provide them with the best building characteristic in al-Madina due to the difference in incomes and prices in Saudi Arabia and the cost of living in areas close to al-Haram.

9.2.2 Room Characteristics by Nationalities

Ranking the nationalities by their room characteristics was carried out in three aspects: the average room area, the number of pilgrims per room and sleeping area per pilgrim.

Table 9.2 shows that the Turkish have the highest average room area (27.9 m^2) while the Syrians have the lowest (8.6 m^2). As expected, the rank order of nationalities in terms of average room area is reflected in their rank order for the number of pilgrims per room. Yet, the increase in the number of pilgrims per room is not considered desirable, therefore it is presented in the table as opposite in direction in ranking the first characteristic. Thus, the Syrians get the best score since the average number of pilgrims is 3.4 pilgrims per room where the Turkish group has the highest average (11.3 pilgrims / room).

There is not much difference among nationalities in terms of average sleeping area. However, the Syrian group which has the highest average sleeping area per pilgrim (2.55 m^2 / pilgrim) is very close to the Turkish and Indonesian groups who have the lowest average sleeping area per pilgrim (2.48 m^2 / pilgrim).

Table 9.2 Rank-ordering of Nationalities/Room’s Characteristics Mean Indices
Based on (Mean values)

Nationality	Average Room Area		Number Of Pilgrims Per Room		Sleeping Area Per One Pilgrim		Rank - ordering Mean Indices	
	M	R ↑	M	R ↓	M	R ↑	Score	R ↓
Syrian	8.6	11	3.4	1	2.55	1	13	1
Egyptian	15.6	7	6.2	5	2.54	2	14	2
Algerian	12.8	10	5.1	2	2.52	4	14	4
Indian	19.1	4	7.5	7	2.53	3	14	3
Omani	22.3	2	8.9	10	2.51	5	17	5
Bengali	13.1	9	5.2	3	2.50	6	18	6
Senegal	14.3	8	5.7	4	2.50	7	19	7
British	18.1	6	7.2	6	2.49	8	20	8
Pakistani	20.6	3	8.3	9	2.49	9	21	9
Indonesian	18.6	5	7.9	8	2.48	10	23	10
Turkish	27.9	1	11.3	11	2.48	11	23	11
Total (mean)	17.35		6.97		2.51			

M = Mean within the Building Characteristic
 ↑R = Rank of Nationality in the Specific Building Characteristic (Rank is Based on the Best Score for the Highest Mean).
 ↓R = Rank of Nationality in the Specific Building Characteristic (Rank is Based on the Best Score for the lowest Mean)

There is a difficulty in computing the final score of nationalities in the above three characteristics of the room for two main reasons:

1. The strong relationship between the average room area and the number of pilgrims per room. Therefore, adding the score of them results in a similarity among nationalities. In other words, if a nationality has the best rank in the first characteristic, it obviously has a proportionally worse rank in the second.
2. Nationalities have almost similar sleeping areas per pilgrim, which is near 2.5 m². Therefore, adding this amount in the sum of the previous two characteristics makes no difference to the total ranking order score.

However, if we consider the slight differences between nationalities we find that the Syrian group has the best score total ranking-order whereas the Turkish and

Indonesians get the lowest. Also we think that, with the fixed standard sleeping area per pilgrim, it is better to have a smaller average room area (which the Syrians get) rather than larger rooms where the chance of having more pilgrims living in the same room increases. Considering that privacy is the one of the main Islamic principles, the final ranking order should be based more on the number of pilgrims per room than the other two characteristics. Accordingly we can argue that Syrian, Algerian and Bengali have the best room characteristics, where the Turkish, Omani and Pakistani have the worst.

9.2.3 Toilet Characteristics by Nationalities

Six toilet characteristic were used to investigate the ranking-order among nationalities. They are number of toilets, average toilet area, number of pilgrims per toilet, toilet area per pilgrim, number of toilets per storey and number of room per toilets.

An increased number of toilets in a building is considered an advantage for the users. Table 9.3 shows that the entire sample has an average of 30.43 toilets per building. At a building level, as well as storey level, the Turkish group has more toilets than other groups (45.3 toilets / building and 7.6 toilets / storey). In contrast the British have the smallest number of toilets (an average of 16.7 toilets / building and 3.3 toilets / storey). We might think that the average number of toilets for the British group is good, but that is entirely subject to the number of users.

The British and Pakistani groups have the highest number of pilgrims per toilet (19.1 and 21.6 pilgrims / toilet respectively). Therefore, their buildings' toilets are considered the worst ranking in this aspect.

Also, the shortage of toilets is reflected in the number of rooms per toilet. The table shows that the Pakistanis, Egyptians and British have the highest average of rooms per toilet (above 2.5 room / toilets).

Table 9.3 Rank-ordering of Nationalities/Toilet's Characteristics Mean Indices
Based on (Mean values)

Nationality	Number Of Toilets		Average Toilet Area		Number Of Pilgrims Per Toilet		Toilet Area Per One Pilgrim		Number Of Toilets Per Storey		Room Number Per Toilets		Rank - ordering Mean Indices	
	M	R ↑	M	R ↑	M	R ↓	M	R ↑	M	R ↑	M	R ↓	Score	R ↓
Senegal	30.0	6	6.6	1	5.7	1	1.15	1	5.0	8	1.0	1	18	1
Bengali	37.5	3	5.4	4	10.0	4	0.74	3	7.5	2	1.9	7	23	2
Omani	29.0	7	6.1	2	13.6	6	0.48	5	7.0	3	1.5	2	25	3
Indian	35.3	4	5.5	3	11.4	5	0.47	6	6.6	4	1.6	4	26	4
Syrian	37.5	2	4.5	9	5.7	2	0.83	2	5.3	6	1.6	5	26	5
Turkish	45.3	1	4.7	7	16.3	9	0.30	9	7.6	1	1.6	3	30	6
Algerian	20.7	10	4.9	6	9.0	3	0.56	4	4.6	9	1.8	6	38	7
Egyptian	31.7	5	5.3	5	15.1	7	0.43	7	6.3	5	2.6	10	39	8
Indonesian	26.4	8	4.4	10	15.9	8	0.36	8	5.2	7	2.0	8	49	9
Pakistani	24.8	9	4.7	8	21.6	11	0.23	11	4.2	10	2.9	11	60	10
British	16.7	11	3.6	11	19.1	10	0.26	10	3.3	11	2.5	9	62	11
Total (mean)	30.43		5.06		13.04		0.53		5.70		1.88			

M = Mean within the Building Characteristic

R ↑ = Rank of Nationality in the Specific Building Characteristic (Rank is Based on the Best Score for the Highest Mean).

R ↓ = Rank of Nationality in the Specific Building Characteristic (Rank is Based on the Best Score for the lowest Mean)

In general, the British and Pakistani groups have the worst toilets in their buildings. On the other hand, it seems that the Senegalese are the top group in terms of average toilet area (6.6 m^2), number of pilgrims per toilet (5.7 pilgrim / toilet), toilet area per pilgrim (1.15 m^2 / pilgrim) and number of rooms per toilet (1 room / toilets).

9.2.4 Kitchen Characteristics by Nationalities:

Six kitchen characteristics were investigated to understand the differences in the kitchens for eight nationalities. The Syrian, Indian and Bengali groups have considerable missing values in kitchen size, therefore they are not included in this comparison. The six characteristics that are involved in the analysis are: number of kitchens, average kitchen area, number of pilgrims per kitchen, kitchen area per pilgrim, number of kitchens per storey, and number of rooms per kitchen.

Table 9.4 shows that the Turkish and Egyptian groups have the highest number of kitchens per building (an average of 31.3 and 26.6 kitchen / building respectively). Also, the Senegalese, Omanis and Indonesians have the highest score in terms of average kitchen area and number of kitchens per storey. However, the Senegalese have the smallest number of kitchens per building and the highest number of pilgrims per kitchen. This is shown in the final ranking of nationalities.

Therefore, we notice that the Egyptian, Omani, Indonesian and Turkish groups have the best kitchen characteristics, whereas the Senegalese have the worst. Algerians who have the second best rank order in terms of number of pilgrims per kitchen still have a significantly lower score for other kitchen characteristics. Therefore, their final ranking order is affected.

Table 9.4 Rank-ordering of Nationalities/Toilet's Characteristics Mean Indices
Based on (Mean values)

Nationality	Number Of Toilets		Average Toilet Area		Number Of Pilgrims Per Toilet		Toilet Area Per One Pilgrim		Number Of Toilets Per Storey		Room Number Per Toilets		Rank - ordering Mean Indices	
	M	R↑	M	R↑	M	R↓	M	R↑	M	R↑	M	R↓	Score	R↓
Senegal	30.0	6	6.6	1	5.7	1	1.15	1	5.0	8	1.0	1	18	1
Bengali	37.5	3	5.4	4	10.0	4	0.74	3	7.5	2	1.9	7	23	2
Omani	29.0	7	6.1	2	13.6	6	0.48	5	7.0	3	1.5	2	25	3
Indian	35.3	4	5.5	3	11.4	5	0.47	6	6.6	4	1.6	4	26	4
Syrian	37.5	2	4.5	9	5.7	2	0.83	2	5.3	6	1.6	5	26	5
Turkish	45.3	1	4.7	7	16.3	9	0.30	9	7.6	1	1.6	3	30	6
Algerian	20.7	10	4.9	6	9.0	3	0.56	4	4.6	9	1.8	6	38	7
Egyptian	31.7	5	5.3	5	15.1	7	0.43	7	6.3	5	2.6	10	39	8
Indonesian	26.4	8	4.4	10	15.9	8	0.36	8	5.2	7	2.0	8	49	9
Pakistani	24.8	9	4.7	8	21.6	11	0.23	11	4.2	10	2.9	11	60	10
British	16.7	11	3.6	11	19.1	10	0.26	10	3.3	11	2.5	9	62	11
Total (mean)	30.43		5.06		13.04		0.53		5.70		1.88			

M = Mean within the Building Characteristic
R↑= Rank of Nationality in the Specific Building Characteristic (Rank is Based on the Best Score for the Highest Mean).
R↓= Rank of Nationality in the Specific Building Characteristic (Rank is Based on the Best Score for the lowest Mean)

9.3 The Effect of Nationality on the Degree of Satisfaction with the Accommodation

To understand the effect of nationality in the degree of satisfaction with the accommodation, the respondent answers were aggregated by the nationality. The effect of nationalities were tested in the three main components of the accommodation, the bedrooms, the toilets and the kitchen. Classification of nationalities were based on the mean of values of the studied characteristics and the percentage of pilgrims at the three scale of satisfactions “satisfied”, “acceptable” and “dissatisfied”

9.3.1 The Effect of Nationality on the Degree of Satisfaction with the Bedroom:

The pilgrims' level of satisfaction with their rooms seems affected by their background experience, therefore, when answering the question they may compare the size of their accommodation with the size of their residence rooms in their countries. Also, we can argue that their answer may be influenced by their expectations in a rich country like Saudi Arabia. Pilgrims from poor countries may well think that they will find a better built environment, but they actually find a lower standard than their expectations. Pilgrims from poorer countries than Saudi Arabia, who represent the majority, may be surprised when they compare what they pay for a certain amount of space with what they can have for that money in their countries. The situation may be worse if the pilgrim is not an experienced traveller and thus conceptualises the difference between the permanent living and temporary accommodation during the pilgrimage. We can further argue that even in the same nationality group, the expectation of pilgrims who come from a crowded and expensive city will be different from who come from a town with no housing problems.

Table 9.5 **Nationality, the Bedroom Area and the Satisfaction with the Size of Bedrooms**

Nationality	Mean Size (m ²)			Total Mean (m ²)	Percentage of respondents		
	Satisfied	Acceptable	Dissatisfied		Satisfied	Acceptable	Dissatisfied
Entire population's Mean = 18.44 m ²							
Turkish	28.62	35.16	27.45	27.94	5.6	5.6	88.9
Omani	22.30	.	22.3	22.30	16.7	0.0	83.3
Pakistani	26.20	.	20.37	20.57	3.3	0.0	96.7
Indian	27.60	.	18.62	18.98	4.0	0.0	96.0
Indonesian	14.19	.	18.95	18.66	6.2	0.0	93.8
British	15.10	.	18.36	18.19	5.0	0.0	95.0
Egyptian	18.11	.	15.39	16.03	23.5	0.0	76.5
Senegalese	.	.	14.29	14.29	0.0	0.0	100
Bengali	.	.	13.06	13.06	0.0	0.0	100
Algerian	13.67	.	12.63	12.89	25.0	0.0	75.0
Syrian	.	.	8.56	8.56	0.0	0.0	100

Nationalities ranking is based on the mean for the entire population (Total Mean) within each nationality

Table 9.5 shows that the average room size for the entire population (for the 40 selected buildings = 229 pilgrims) is 18.44 m². The Turkish group has the largest room size (27.99 m²), whereas the Syrian group has the smallest room size (average = 8.56 m²). However the dissatisfaction with the room size is not only when it become smaller, but also when it becomes larger. The linear relationship between the room size and the level of satisfaction, where the satisfaction level increases once the room size increases, is not always true. In this respect, we might expect that the high dissatisfaction with room size among the Syrian group was due to the smaller room size. At first it was surprising to find that those who had the average room size of more than 20.5 m² (Turkish, Omani and Pakistani) have less satisfaction with their room size than groups such as the Egyptians and Algerians who had average room sizes of 16.03 m² and 12.89 m² respectively. This showed that other factors than the real room size may be reflected in the pilgrims' attitude when it becomes larger. Table 9.6 shows that this factor might be the increase of pilgrims per bedroom when the bedroom size increased since we have generally a standard average sleeping area of 2.5 m² per pilgrim.

Table 9.6 **Nationality Type, the Number of Pilgrims per Room and the Satisfaction with the Size of Bedrooms**

Nationality*	Mean (pilgrims/room)			Total Mean pilgrims/room	Percentage of respondents		
	Satisfied	Acceptable	Dissatisfied		Satisfied	Acceptable	Dissatisfied
Entire population's Mean =7.49 Pilgrims / Room							
Turkish	11.69	14.1	11.06	11.27	5.6	5.6	88.9
Omani	8.92	.	8.92	8.92	16.7	0.0	83.3
Pakistani	10.56	.	8.18	8.26	3.3	0.0	96.7
Indonesian	5.74	.	8.02	7.88	6.2	0.0	93.8
Indian	11.02	.	7.36	7.51	4.0	0.0	96.0
British	6.17	.	7.36	7.30	5.0	0.0	95.0
Egyptian	7.22	.	6.06	6.33	23.5	0.0	76.5
Senegalese	.	.	5.71	5.71	0.0	0.0	100
Bengali	.	.	5.22	5.22	0.0	0.0	100
Algerian	5.42	.	5.01	5.11	25.0	0.0	75.0
Syrian	.	.	3.36	3.36	0.0	0.0	100

Nationalities ranking is based on the mean for the entire population (Total Mean) within each nationality

Actually, the Turkish, Omanis, and Pakistanis have an average of more than 8 pilgrims in a room, where the Egyptians and Algerians have an average of 6.3 and 5.1 pilgrims per room respectively.

In Table 9.7 six nationalities are considered as the groups with the greatest dissatisfaction with the number of bedrooms in their building (more than 65% of the respondent within each group were dissatisfied). These nationalities are the Omani, Pakistani, Indonesian, Turkish, British and Syrian. The first 5 groups' attitude may be influenced by the number of pilgrims per room which is more than 7 as an average. Therefore, they may think that the number of rooms in their buildings should be increased so that fewer pilgrims will share each room. The Syrians, who have the smallest average number of pilgrims per room (3.36 pilgrim per room), are still almost the most dissatisfied groups with the number of rooms in their building but their room size is the smallest among all the group.

Table 9.7 **Nationality Type, the Number of Pilgrims per Room and the Satisfaction with the Number of Bedrooms**

Nationality	Mean Size (pilgrims/room)			Total Mean pilgrims/room	Percentage of respondents		
	Satisfied	Acceptable	Dissatisfied		Satisfied	Acceptable	Dissatisfied
Entire population the Mean = 7.49 Pilgrims per Room							
Turkish	10.69	7.98	11.78	11.27	27.8	5.6	66.7
Omani	8.92	.	8.92	8.92	16.7	.0	83.3
Pakistani	8.65	7.67	8.22	8.26	13.3	3.3	83.3
Indonesian	7.80	6.86	8.00	7.88	21.5	6.2	72.3
Indian	7.90	7.14	7.57	7.51	12.0	24.0	64.0
British	6.80	6.64	7.62	7.30	15.0	20.0	65.0
Egyptian	6.68	6.46	6.12	6.33	23.5	23.5	52.9
Senegalese	5.71	.	5.71	5.71	50.0	.0	50.0
Bengali	5.38	5.22	5.19	5.22	12.5	25.0	62.5
Algerian	5.46	5.39	4.92	5.11	18.8	18.8	62.5
Syrian	3.73	3.36	3.31	3.36	10.0	20.0	70.
Nationalities ranking is based on the mean for the entire population (Total Mean) within each nationality							

However, there are other factors, such as the furniture arrangement and degree of privacy within the room, which might influence the pilgrims' attitude toward their room size in general.

There is not much difference among nationalities in terms of the sleeping area per pilgrim (ranging from an average of 2.48 to 2.55 m² / 1 pilgrim); there is a low standard deviation among all the categories. This makes it difficult to compare the influence of nationality in such aspects.

9.3.2 The Effect of Nationality on the Degree of Satisfaction with the Toilets

Toilets are the second most important component within the accommodation. The satisfaction with the toilets seems not only influenced by their characteristics, but also by the background of the users. Pilgrims from rich countries expected to have more private toilets, in contrast to some people of poor countries who may expect to share a public bathroom. We can even argue that, with the standard sleeping area per pilgrim,

toilets become the money indicator. In other words if the rich pilgrims cannot get a larger sleeping area by paying more money, they may intend to get a better toilet. Also, the level of satisfaction with toilets depends on the pilgrims expectation about the toilets in their accommodation. Pilgrims' answers might be influenced by comparing their accommodation's toilet with the new public toilets for al-Haram. Therefore, they might think that their accommodation's toilets should be as good as al-Haram public toilets. Consequently, toilets were examined through investigating the percentage of satisfaction with their availability for each nationality. Also, the examination involved a study of the influence on satisfaction per nationality and four aspects of toilets including toilet numbers, number of toilets per storey, number of pilgrims per toilet and toilet area per pilgrim.

Table 9.8 Nationality, the Building Number of Toilets and the Satisfaction with the Number of Toilets

Nationality	Mean Size (Toilets)			Total Mean (Toilets)	Percentage of respondents		
	Satisfied	Acceptable	Dissatisfied		Satisfied	Acceptable	Dissatisfied
Entire population's Mean =29.03 Toilets							
Turkish	72.00	72.00	35.08	45.33	22.2	5.6	72.2
Bengali	45.00	.	36.43	37.50	12.5	.0	87.5
Syrian	40.00	.	36.43	37.50	30.0	.0	70.0
Indian	54.67	.	22.63	34.16	36.0	.0	64.0
Egyptian	35.80	.	33.08	33.88	29.4	.0	70.6
Senegalese	30.00	.	.	30.00	100	.0	.0
Omani	30.00	.	28.50	29.00	33.3	.0	66.7
Indonesian	35.43	12.00	24.40	26.59	21.5	1.5	76.9
Pakistani	.	3.00	25.55	24.80	.0	3.3	96.7
Algerian	17.33	.	22.60	20.63	37.5	.0	62.5
British	20.00	.	16.44	16.80	10.0	.0	90.0

Nationalities ranking is based on the mean for the entire population (Total Mean) within each nationality

The entire sample has an average of 29.03 toilets per building. Table 9.8 shows that the Turkish have more toilets than other groups (an average of 45.33 toilets/ building), whereas the British and Algerian groups have the smallest number of toilets with an average of 16.8 and 20.63 toilets per building respectively. Although the Turkish have the largest average number of toilets, they are not the most satisfied with this aspect. The group which was 100 % satisfied with the number of the toilets in their building

was the Senegalese group, although they have an average of 30 toilets per building. This does not mean that 30 toilets per building is the ideal number for maximum satisfaction, since the Omani group, for example, have almost the same number of toilets (average of 29 toilets per building) but they show only 33.3 % of satisfaction with that number.

Table 9.9 Nationality, the Number of Pilgrims per Toilets and Satisfaction with the Building's Number of Toilets

Nationality	Mean (pilgrims/Toilets)			Total Mean pilgrims/Toil	Percentage of respondents		
	Satisfied	Acceptable	Dissatisfied		Satisfied	Acceptable	Dissatisfied
Entire population the Mean =14.78 Pilgrims/Toilets							
Pakistani	.	31.67	21.24	21.59	.0	3.3	96.7
British	10.89	.	20.62	19.65	10.0	.0	90.0
Turkish	12.56	12.56	17.72	16.28	22.2	5.6	72.2
Indonesian	11.36	8.42	17.45	16.00	21.5	1.5	76.9
Omani	9.27	.	15.79	13.62	33.3	.0	66.7
Egyptian	10.04	.	14.79	13.39	29.4	.0	70.6
Indian	7.97	.	13.66	11.61	36.0	.0	64.0
Bengali1	5.73	.	10.65	10.03	2.5	.0	87.5
Algerian	8.68	.	9.36	9.11	37.5	0	62.5
Syrian	4.91	.	6.09	5.73	30.0	.0	70.0
Senegalese	5.71	.	.	5.71	100.0	0	.0

Nationalities ranking is based on the mean for the entire population (Total Mean) within each nationality

To test whether the nationality affects the degree of satisfaction with the number of toilets, it is more valid to show it in term of users per toilet than to base our judgement only on the number of toilets per building. Table 9.9 shows that the entire sample has an average of 14.78 pilgrims per toilet. The Senegalese group has the lowest number of user per toilet (an average of 5.71 pilgrims per toilet) and the Pakistani group has the largest with an average of 21.57 pilgrims/ toilets. As expected, this result is reflected in their respondents. Therefore, the Senegalese are the most satisfied group whereas the Pakistanis are the most dissatisfied group.

Although the Syrians have an average of 5.73 pilgrims per toilet, which is almost the same as the Senegalese group, the majority (70%) of them were dissatisfied. At first, one may think that they have a small toilet area per pilgrim, but they actually have the second largest area (0.83 m² / pilgrim). Therefore, the background including nationality type might be the main reason for this aspect of the respondents' satisfaction.

Despite the above example, we notice that pilgrims with similar conditions have a similarity in the degree of satisfaction. For example, Indonesians and Turks who have an average of 16 and 16.28 pilgrims per toilet, show respectively 21.5 % and 22.2% of their sample are satisfied with the number of toilets. Also, the Egyptian and the Omani groups show respectively 29.4 % and 33.3 % of their population are satisfied with the number of toilets, which might be because they have almost the same average of pilgrims per toilets (13.39 and 13.62 respectively).

Table 9.10 Nationality, the Average Toilet area and Satisfaction with the Building's Number of Toilets

Nationality	Mean Size (m ²)			Total Mean (m ²)	Percentage of respondents		
	Satisfied	Acceptable	Dissatisfied		Satisfied	Acceptable	Dissatisfied
Entire population the Mean = 4.82 m ²							
Senegalese	6.57	.	.	6.57	100.0	.0	.0
Omani	5.24	.	6.56	6.12	33.3	.0	66.7
Indian	2.63	.	7.33	5.64	36.0	.0	64.0
Bengali	6.98	.	5.19	5.4	12.5	.0	87.5
Egyptian	5.80	.	5.00	5.23	29.4	.0	70.6
Algerian	5.04	.	4.57	4.75	37.5	.0	62.5
Turkish	4.62	4.62	4.78	4.73	22.2	5.6	72.2
Pakistani	.	7.32	4.61	4.70	.0	3.3	96.7
Syrian	4.00	.	4.73	4.51	30.0	.0	70.0
Indonesian	4.02	3.44	4.50	4.38	21.5	1.5	76.9
British	3.61	.	3.66	3.66	10.0	.0	90.0

Nationalities ranking is based on the mean for the entire population (Total Mean) within each nationality

Since the toilets in the sample building are considered as individual toilets, they cannot be used by two persons at the same time and fulfil the Islamic principle. It is worth investigating the effect of the average toilet size on the degree of satisfaction with the number of toilets rather than basing our examination on the average toilet area per pilgrim. Table 9.10 shows that the entire sample have an average toilet area of 4.82m^2 . The Senegalese group still has the highest average toilet area which is 6.57m^2 , whereas the British have the smallest average toilet area equal to 3.66m^2 . 100 % of the Senegalese sample are satisfied the building's number of toilets and only 10 % of British consider themselves as satisfied with this aspect. But we should consider that even if the size of the toilet is large, pilgrims with the highest number of users, will have a limited chance of using the toilet, and, therefore, we would expect a high dissatisfaction with the toilet in general. The difference of satisfaction between the Senegalese group and the British group, therefore, cannot be taken as the only effect because of the suitability of their toilet area as for toilet purpose. The level of satisfaction might be related to large toilets for other purpose such as washing and drying clothes due to shortages in such areas. However, the Omani group, which has an average toilet area of 6.12m^2 (similar to the Senegalese group), shows 66.7 % of their sample as dissatisfied. Again the differences in their satisfaction level could be related to the nationality, but they are probably more closely related to the characteristics of their toilets. Indonesians and Turks, who have different backgrounds, show a similarity of satisfaction level (21.5 % and 22.2% respectively) because they have a similarity of average toilet area (for those who were satisfied the averages are 4.02m^2 and 4.62m^2 respectively).

However, there are other factors, besides the characteristics of the toilets and their nationality, which might influence the pilgrims' attitude toward their toilets in general. This may include the level of maintenance and cleanness of their toilets and the distance and accessibility of the pilgrims to the public toilets.

9.3.3 The Effect of Nationality Type on the Degree of Satisfaction with the Kitchen

Table 9.11 shows that the Senegalese group has the highest average kitchen area (58.3 m²), yet they are the most dissatisfied group with their kitchen size. It seems that the main reason for their view is that they have the lowest average kitchen number (3.5 Kitchen / building) (Table 9.12)². Also, the high average number of pilgrims per kitchen (for the Senegalese group 135 pilgrims / kitchen) may be reflected in this level of dissatisfaction (Table 9.13).

Table 9.11 Nationality, the Kitchen area and Satisfaction with the Kitchen Size

Nationality	Mean Size (m ²)			Total Mean (m ²)	Percentage of respondents		
	Satisfied	Acceptable	Dissatisfied		Satisfied	Acceptable	Dissatisfied
Entire population the Mean = 10.58 m ²							
Senegalese	.	.	58.38	58.38	.0	.0	100.0
Omani	16.26	.	16.12	16.13	8.3	.0	91.7
Indonesian	6.51	9.33	10.04	9.13	25.0	4.7	70.3
Turkish	.68	9.75	11.61	8.36	27.8	11.1	61.1
Pakistani	.	8.40	8.00	8.02	.0	3.3	96.7
Egyptian	4.00	5.62	9.05	6.86	35.3	11.8	52.9
British	3.53	3.53	6.65	6.03	10.0	10.0	80.0
Algerian	4.63	9.47	5.81	5.82	18.8	6.3	75.0
Indian	The Indian, Bengali and Syrian have considerable missing values in kitchen size, therefore are not be included in this compression.						
Bengali							
Syrian							

Nationalities ranking is based on the mean for the entire population (Total Mean) within each nationality

The Egyptian and the Turkish groups show the highest percentage of satisfaction with the size of their kitchen (35.3% and 27.8% respectively). However, both groups have a small average kitchen area (for those who were satisfied, the average kitchen areas were 4 m² 0.68 m² respectively). Therefore, it is obvious that their satisfaction was raised because they were the groups with the highest average number of kitchens (46 and 72 kitchen / building respectively).

² Because the considerable value of some kitchen size is missing in the case of Syrian, Indian and Bengali groups, they will not be included in the following discussion.

Even among the same nationalities such as the Egyptians (with average size 9.05) and 61.1% of the Turkish (with average size 11.61), we find that 52.9% were dissatisfied with their kitchens. Their attitude was clearly not because of the kitchen size, which is larger than those belonging to people satisfied in the same groups but they are dissatisfied since they have smaller kitchen numbers per building (average of 12.78 and 15.64 kitchen / building respectively). It is interesting to find that 91.7 % of the Omani group were dissatisfied with their kitchen size, although they had one of the highest average kitchen areas (16.89 m²) and also the highest number of kitchens (average of 10.64 kitchen per building). Table 9.13 shows that those who pronounced themselves dissatisfied had an average of 47 pilgrims per kitchen, which might be the main reason for their attitude.

Table 9.12 Nationality, the Average Kitchen Number and Satisfaction with the Kitchen Size

Nationality	Mean Kitchen			Total Mean (Kitchen)	Percentage of respondents		
	Satisfied	Acceptable	Dissatisfied		Satisfied	Acceptable	Dissatisfied
Entire population the Mean = 12.68 Kitchens							
Turkish	72.00	16.00	15.64	31.33	27.8	11.1	61.1
Egyptian	46.00	30.50	12.78	26.59	35.3	11.8	52.9
Pakistani	.	18.00	11.79	12.00	0.0	3.3	96.7
Indonesian	12.00	9.33	11.16	11.28	25.0	4.7	70.3
Omani	15.00	.	10.64	11.00	8.3	0.0	91.7
British	7.00	7.00	8.75	8.40	10.0	10.0	80.0
Algerian	8.33	5.00	7.92	7.81	18.8	6.3	75.0
Senegalese	.	.	3.50	3.50	0.0	0.0	100.0
Indian	The Indian, Bengali and Syrian have considerable missing values in kitchen size, therefore are not be included in this compression.						
Bengali							
Syrian							
Nationalities ranking is based on the mean for the entire population (Total Mean) within each nationality							

Apart from the main influence of the kitchens on the pilgrims' degree of satisfaction, there are other aspects which might affect the pilgrims' view. These aspects include eating habits, the ability to prepare the food, the availability of the necessary kitchen equipment and the distance, price, and accessibility of a restaurant.

Table 9.13 Nationality, the Average Number of Pilgrims per Kitchen and Satisfaction with the Kitchen Size

Nationality	Mean (pilgrims/Kitchen)			Total Mean (Pil/kit)	Percentage of respondents		
	Satisfied	Acceptable	Dissatisfied		Satisfied	Acceptable	Dissatisfied
Entire population the Mean =55.78 pilgrims/Kitchen							
Senegalese	.	.	135.17	135.17	0.0	0.0	100.0
Omani	18.53	.	47.62	45.20	8.3	0.0	91.7
British	15.86	15.86	45.16	39.30	10.0	10.0	80.0
Turkish	12.56	51.88	47.64	38.37	27.8	11.1	61.1
Pakistani	.	34.06	38.4	38.28	0.0	3.3	96.7
Indonesian	21.57	28.87	39.56	34.56	25.0	4.7	70.3
Algerian	21.80	23.4	24.78	24.13	18.8	6.3	75.0
Egyptian	7.76	15.05	35.52	23.31	35.3	11.8	52.9
Indian	The Indian, Bengali and Syrian have considerable missing values in kitchen size, therefore are not be included in this compression.						
Bengali							
Syrian							
Nationalities ranking is based on the mean for the entire population (Total Mean) within each nationality							

9.4. Summary:

A study of change in accommodation characteristics by nationalities shows that most of characteristics were changed from are nationality to another. At the building level, pilgrims who have the worst building characteristics are from Indio-Asian countries; pilgrims from Egypt, Turkey, Senegal and Britain have the best building characteristics. Regardless of the condition of the sample building, it seem that differences among nationalities are related to the income of their pilgrims. Therefore, pilgrims from rich countries get the best available building characteristics due to their willingness to pay more than with other nationalities.

Due to the fixed standard sleeping area per pilgrim, the governing characteristic of the room is the number of pilgrims per room. Therefore, the number of pilgrims per room becomes low and thus better as the average room area becomes smaller. This allows more consideration of privacy within the room. Consequently, Syrian, Algerian and

Bengali groups have the best conditions in room characteristic, since they get the smallest number of pilgrims per room.

Similarly, at the toilet level, the number of pilgrims per toilet seems to be the main governor of the final ranking of nationalities. Therefore, the British and Pakistani groups, who have the highest number of pilgrims per toilets, have the worst toilets.

On the other hand, the final ranking of nationalities in terms of kitchens, was influenced more by the average kitchen area, number of kitchens, kitchen number per storey and room number per kitchen. According to the final ranking of nationalities, the Indonesian and Turkish groups have the best kitchen characteristics, whereas the Senegalese have the worst.

The pilgrims accommodation are private investments, therefore, the characteristics of the building, the rooms, the toilets and the kitchens depend on how much the pilgrims pay. The owners of the buildings become familiar with which nationality is possible to accommodate in their buildings through the value of their buildings which depends on their characteristics. However, it is not so simple to think that pilgrims from poor or rich nationalities will be satisfied with their accommodation according to their capability of payment. Actually, when asked their attitude, pilgrims from both parties probably compare what they pay for certain amount of space and its characteristic in al-Madina with what they can have for that money in their countries. Also, pilgrims levels of satisfaction are affected by the pilgrims' background and experiences. Moreover, the satisfaction level is influenced by the pilgrims expectation of what they will be offered in terms of space and services from a rich country as Saudi Arabia.

Satisfaction with the size of the room is found to be influenced by the number of people that stay in it. Therefore, we find that pilgrims with an intermediate average room size (16.03 m²) are the nationalities (Algerian and Egyptian) who have the highest level of satisfaction. Their room sizes reflect an average of 6.3 and 5.1 pilgrims per room respectively.

Apart from the accommodation's distance and accessibility from al-Haram, our investigation shows that with the standard sleeping area per pilgrim, the accommodation with a better toilet characteristics are the main aim of the rich nations pilgrims. Toilets, as a place that cannot be used by two people at the same time, are more influenced by the number of people per toilet rather than other characteristic such as toilet size. The study shows that the Senegalese group, who has the lowest user per toilet (5.71 pilgrims per toilet), are the most satisfied group with their building's number of toilets.

In regard to the satisfaction with the kitchens, the Egyptians and Turks were the highest in terms of satisfaction with the size of their kitchen. However, that was not because of the size of their kitchen, but rather because they were the ones with the highest average number of kitchens (46 and 72 kitchen per building respectively). The increased number of kitchens per building for the Egyptian and Turkish groups resulted in ranking them the two nationalities with the lowest number of pilgrims per kitchen (7.76 and 12.56 pilgrims per kitchen for those who pronounced themselves as satisfied).

CHAPTER 10 Conclusion and Implications

10.1 Introduction

Islamic pilgrimage is considered one of the largest events in the world, because about two million people perform *Hajj* and visit the Holy places in Makkah and al-Madina. It is a continuous ritual that was started during the time of the Prophet Mohammed. As this study shows, the yearly increase of pilgrims in the Prophet's city creates an alarming situation. There is agreement among pilgrims surveyed that their accommodation is far short of the expected level of satisfaction.

It was the intention of this study to give a more reliable base of information for decision-making regarding the aspects of satisfaction and dissatisfaction and the reasons for the pilgrims' attitude toward their accommodation. The study's aim was undertaken in the belief that this information could be highly effective in achieving a more satisfactory environment for the pilgrims. The primary method of gathering the data was through a structured interview of 450 pilgrims divided proportionally among 11 representative nationalities. Also, an architectural analysis of 40 sample buildings was carried out both for the characteristics of the building in general, as well as its three main components: the room, the toilets and the kitchen.

This information was supplemented by data obtained from site observations and architectural plans, and formed a solid base linking the pilgrims' attitude and the measure of satisfaction with the real physical environment.

A quantitative analysis technique was used to investigate the data which was characterised by a wide range of populations (pilgrims) from different nationalities and geographical backgrounds. This technique was used to achieve a generalisation of the pilgrims attitudes toward their built environment rather than a qualitative behaviour investigation.

Although findings were previously discussed in the last section of each chapter, in this concluding chapter the main research findings will be evaluated, and then implications for the housing policy and building design will be discussed. These implications will be for the bedrooms, toilets, kitchens, the building in general and the city/ neighbourhood level. Whoever, due to the limits and focus of this research (see Chapter 1) these result are based on questionnaire responses in one pilgrims seasons. Therefore, we should recognise that this conclusion and implication could be somewhat different if the same questionnaire in future are distributed over several pilgrims seasons. On the other hand, as 1996 AD/ 1416 AH was not an untypical year, we have no reason to believe that there would be significant differences.

10.2 Implication at the Accommodation Level

10.2.1 Implication for the Accommodation Location and Accessibility

The purpose of the pilgrims being in al-Madina was strongly related to them being near al-Haram. Therefore, both the pilgrims delegation and the government authorities realise that housing the pilgrims in the nearest building to al-Haram is each pilgrim's desire. Actually, that affects the city structure and urban pattern. However, irrespective of the high degree of satisfaction with the location and accessibility, that increases the dissatisfaction with other aspects due to overcrowding in the limited number of buildings. We can argue that the accommodation location is not as important as the accessibility of it. We believe that if pilgrims are given two choices: the first to have an accommodation relatively far from al-Haram but accessible, and the second to have a nearer accommodation but with poor accessibility to al-Haram, they

will select the first choice. Actually, the time that pilgrims spend in travel from an accommodation 5 km from al-Haram could be less than the time they spend waiting for a lift in a building 0.5 km from al-Haram.

10.2.2 Implication for the Accommodation Exterior Characteristics

As mentioned, pilgrims only stay in al-Madina for a short time, therefore, they are concerned with the internal living environment more than the exterior. Regardless of the high satisfaction of pilgrims with the exterior of their accommodation, we should not base our goal for future design in decorative elevations neglecting the internal layout of the building. This does not mean that we omit this exterior aspect, but rather consider the internal as the priority. It is sad to see that the client, the architecture offices and the municipality are concerned today with the elevations more than the floor plan. This reflects the rise of what could be call “elevation architects”. Unsuitable materials, as well as bad forms, were used to create building elevations that do not belong in the city. A new trend to correct this approach is noticeable in the new development which uses the arcade and *rowashan* system. We believe, however, that by not spending money on an expensive exterior material such as marble, the internal environment can be improved. The window air-conditioning units and the external sewage and water pipes influence the buildings external appearance, therefore, architectural treatment should be applied to avoid these unsightly problems.

With regards to the height of the building, it is clear that it was consider by the decision makers to be one approach to solving the problems of being far from al-Haram. However increasing the height of the buildings should be managed in terms of the infrastructure services, as well as the number of vertical access facilities (such as lifts). Therefore, a feasibility study should always be carried out in the design stage, which considers suitable service levels for the given height.

The study did not investigate the relationship between the number of lifts for example, and the height of a building, but from our observation in the field, we noticed that pilgrims spend a considerable amount of time waiting for the one lift in their building.

10.2.3 Implication for the Accommodation Internal Characteristics

The study shows that variables related to the internal characteristics, such as the accommodation size, layout, number of bedrooms, bathroom, kitchen, sitting area, storage and furniture were the aspects that have the lowest satisfaction among pilgrims. The accommodations were divided into two types : the apartment building style and the hotel style. Each room was rented on an individual basis, therefore, the apartment lost its function as an architectural space. The investigation shows that the hotel style seems more appropriate for the pilgrims since the services, such as a toilet and kitchenette, are within the room layout.

Analysis shows that the dissatisfaction with most of the internal aspects were related to the physical condition of the accommodation. As a goal of this study, the main generator of such attitudes toward the internal aspects was investigated.

Privacy may be a common principle, but it is a highly determinant aspect of a relationship in Muslim society. The importance of this influences the forming of spaces in a Muslim built environment. This study demonstrates that privacy is still considered the most important Islamic principle affecting the pilgrims attitude toward their accommodation ¹. The study shows that privacy variables have the lowest level of satisfaction within the socio- cultural environment of the pilgrims' accommodation. This lack of privacy was mainly because of the high number of users per building, per room, per toilet, per kitchen.

10.2.4 Implication for the Bedrooms

As has been noted, bedrooms were the level of space that pilgrims were most concerned about. To achieve the maximum level of privacy, the number of users should be limited to one pilgrim per room, but in a situation where we have very

¹ The three variables with the lowest level of satisfaction among the accommodation socio-cultural environment aspects were those related to the privacy.

valuable and limited land, this is not feasible due to the costs involved, and the limited space.

Fig 10.1 Average of Satisfaction with the Inside Privacy by Number of Pilgrims Per Room

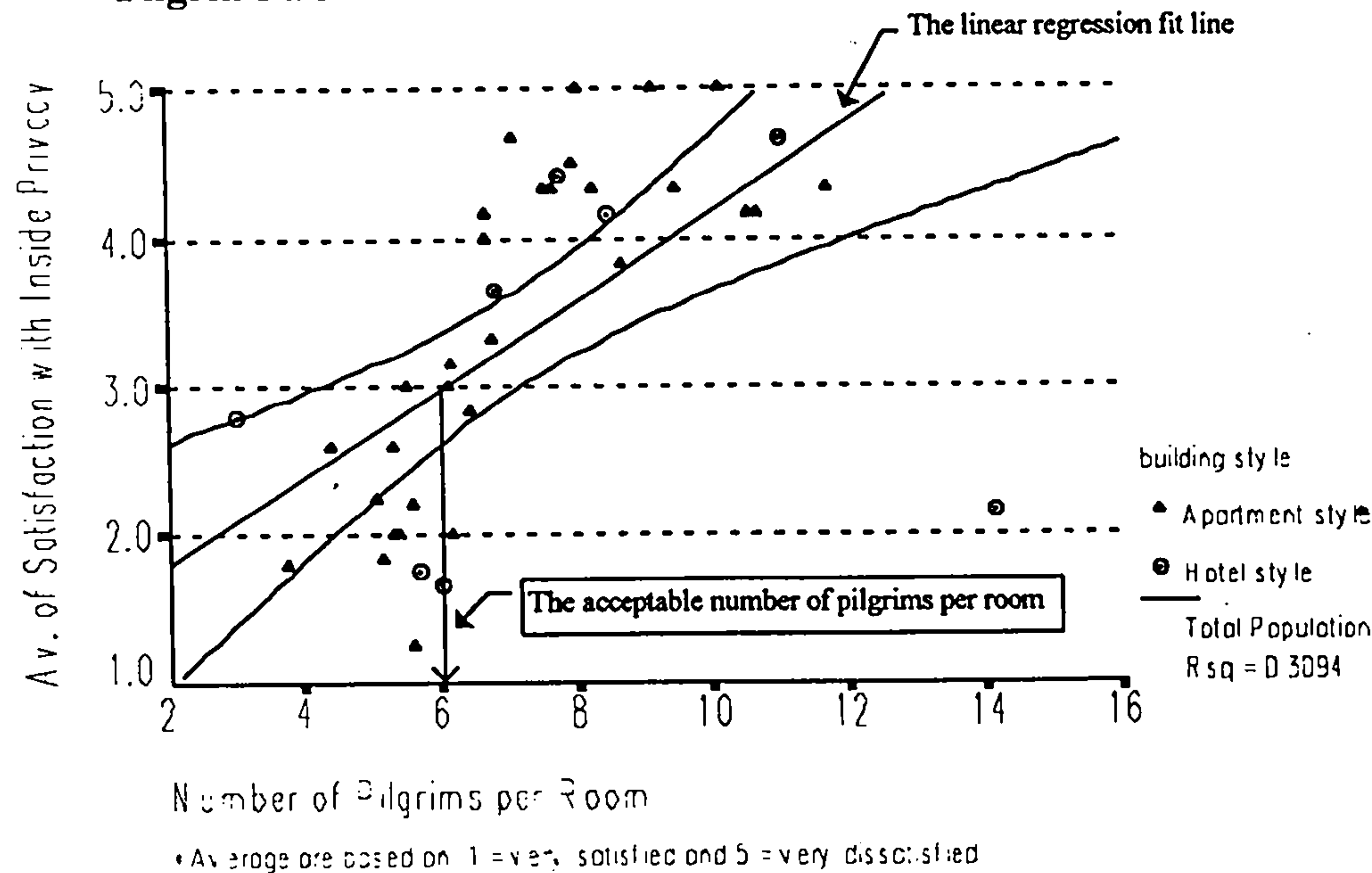


Fig 10.1 shows the relationship between the number of pilgrims per room and the average of satisfaction with the inside privacy. The graph, indicates that the pilgrims were fairly satisfied with the inside privacy when only about 2 people occupied the room. In contrast, they became fairly dissatisfied when the number exceeded 9 people. If we draw an imaginary line between the point where the linear regression hits the acceptable level of satisfaction and the x axis (number of pilgrims), we can argue that the maximum number of pilgrims should be 6 per room to achieve an acceptable level of satisfaction with inside privacy. The 2.5 m² per pilgrim seems to be small and needs to be increased to achieve more satisfaction in that aspect. However, since it has been applied for more than five years, we will consider it as unlikely to change. If we hold to the 2.5 m² per pilgrim, we can argue that the efficient room size for the 6 pilgrims is 15 m². Therefore, we would expect that buildings will be divided into small rooms of not more than 15 m² for no more than 6 pilgrims each.

Transforming all the rooms, including the sitting rooms, into bedrooms helps to accommodate more pilgrims, but could reduce the social intercourse among the residents. The policy of having the same nationality group helps to aid communication among them and, thus, it seems that pilgrims are not much affected by this transformation. On the other hand, we can argue that increasing the number of residents in each bedroom increases the socialisation to a degree that may affect the function of the bedroom as a place of quietness and rest. We look forward to having smaller rooms with a maximum of 6 people to ensure socialisation without affecting the real function of the bedroom. However, the building could benefit from a multi-purpose room for socialisation activities.

Furnishing the bedroom with low cost light sponge cushions, mainly for the purposes of easy storage and movement, is in accordance with pilgrim's needs. These cushions occupy most of the floor area. Actually, in some cases, as illustrated in Appendix C, the movement within the rooms became very difficult. We argue that the height of the rooms (mostly 3 m.) allows for using two sleeping area levels. Therefore, by using cushions on two level beds (bunk beds) it will help in the following ways:

1. To save half of the area which is recommended as a sleeping area.
2. To allow increased ease of movement within the room.
3. To store pilgrims' belongings in the area under the three ground level beds. (As indicated in the study, 79% of the pilgrims were dissatisfied with the storage or closet space).
4. To be used for sitting in non sleeping time (social time) on ground level beds.

These beds could be designed as a wall-mounted or folding unit used as required.

10.2.6 Implication for the Toilets

The toilet has a critical role from a Muslim's point of view. It is a place which cannot be used by two persons at the same time. Therefore, privacy, as the main Islamic principle, should be strongly considered when designing the toilets. Actually, the

strength of privacy is related to the prescribed time of use. The toilet could be considered in terms of the number of people, but the time of use for each of them is very strictly defined, and, thus, should not conflict with others' time of use for the same toilet.

We can argue, due to the necessity of ablution for praying that Muslims believe they are more in need of toilets than others. The necessity of additional toilets is at its height before the five principle prayers as ablution is one of the requirements for praying. Prayers will not be accepted if ablution has not been performed. Therefore, using toilets is not just the nature of human beings, but it is part of the daily schedule of Muslim life.

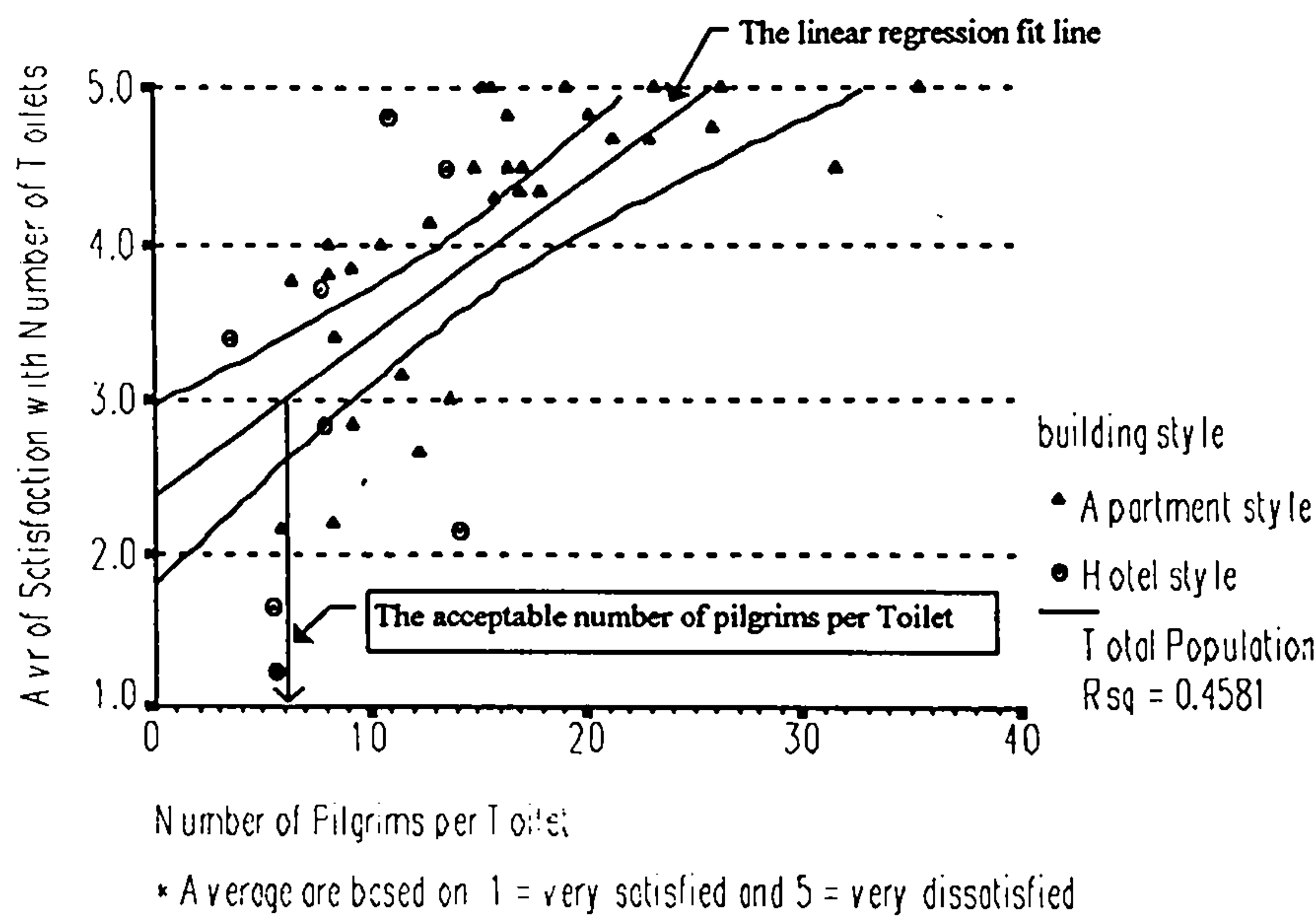
As noted in Chapter 7, dissatisfaction is not related to the size of the toilet (mean = 5.06 m²) but rather to the number of users per toilet (mean = 13.04 pilgrims/ toilet). This high number of users limits the time of use for each of the pilgrims. Actually, this problem arises because many buildings (especially the apartment style) were originally designed for Saudi families (average household size is 5).

Although each apartment usually contains two toilets, one for the men's use and the other for the family's use, the proportion of users per toilet, in the case of pilgrims, is still highly incompatible.

It is obvious that in determining the size of a toilet for permanent residents, (the Saudi family's case) we might think of needing more space than for a toilet for temporary living (the pilgrims' case). We can argue, however, that acceptable levels of satisfaction with toilets for pilgrims could be achieved by reducing the number of users per toilet rather than changing the size of the toilet.

Fig 10.2 shows the relationship between the number of pilgrims per toilet and the average level of satisfaction with the number of toilets. The chart indicates that there is a clear linear relationship between the two aspects, therefore, the level of dissatisfaction is gradually increased as the number of pilgrims per toilet increases.

Fig 10.2 Average of Satisfaction with the Number of Toilets by Number of Pilgrims Per Room



As indicated in the room recommendations, our target is not the highest satisfaction level, but rather the acceptable level due to the cost involved. Therefore, drawing a line from the intersection point of the regression axis with the acceptable axis line to the number of pilgrims per toilet axis will give us the number of pilgrims per toilet for the acceptable level of satisfaction. As shown in the chart, the recommended number is approximately 6 people per toilet.

We can argue that this ratio, which is more than double the existing provision of 13.04 pilgrims / toilet, will allow for more time use per pilgrim, and thus a higher satisfaction level. One can argue that the recommended number of pilgrims per toilet can be achieved by having a toilet area which is divided into a number of small toilets accordingly. It is better, however, to locate the toilet within the control of each recommended number of pilgrims per toilet for cleaning, maintenance and convenience. Therefore, each pilgrim knows that his toilet is only used by his group members. Also, the group of 6 members will be more co-operative in terms of cleaning their toilets than if it is considered a public toilet.

As can be noticed, both the recommended number of pilgrims per room and per toilet is the same. Therefore, we can argue that for an acceptable level of satisfaction there should be a toilet for each room². This indicates that the toilet should be within the control and accessibility of the room members. This strong link between individual room and individual toilet suggests that the general style of building should be the hotel style rather than the apartment style.

If we hold to the average toilet area 5.06m^2 , which appeared not to be the reason of dissatisfaction among pilgrims, we can argue that each pilgrim should have 0.84m^2 as a toilet space. This is much better than the existing 0.53m^2 toilet area per pilgrim and thus will increase the level of satisfaction.

As indicated in Chapter 7 toilets are considered as dirty spaces according to the Islamic principle, therefore, the washing area where the ritual ablution process occurs should be completely separated from the water closet. Having two areas will create an opportunity for another person to use the washing area (e.g. making ablution) without interfering with the privacy of the one who uses the toilets at the same time. Also, the shower area should be separate from the water closet for the same reason, as well as its use as a place for changing clothes. Having the washing and shower areas separated from the water-closet allows for separate sewage systems. The output water could be treated and reused, which will lead to more satisfaction with the water system. Orientation of the toilet areas should be considered. The orientation of the water-closet should be away from the orientation of the *Qiblah*.

10.2.7 Implication for the Kitchen

Some of the buildings (especially the hotel style) did not have a kitchen in each storey. Therefore, we can argue that it is not as important for a temporary resident as the bedroom and the toilet. Pilgrims, as travellers do not have time for cooking their food,

² The study samples have an average of 1.88 rooms per toilet.

therefore, they can either have their food in the building restaurant or an outside restaurant. It even became a waste of space to have ill-equipped kitchens. The study shows that 79% of the sample were dissatisfied with their kitchen size, yet our observation shows that the kitchen function had been changed from a cooking area to another such as drying clothes and storage.

As we noticed, the system that has mainly been used in the sample buildings is to completely separate the men's area from the women's, usually by having them in different apartments. Still there is some degree of privacy required among the same sex groups. In that case, if we would like to rank the strength of privacy in the main building component, we can argue that it is very high for toilets, high for bedrooms and normal for the kitchens. Yet we cannot say that the kitchen is considered a public space for all the building users. The situation is even more critical when we have the average number of pilgrims at 47.65 per kitchen, as in our sample. It is a common attitude among Muslims that no one wants to prepare his food in the presence of other people, if they will not share the same food. The main reason, as discussed, is that they try to avoid the sin of harming other people who might smell the food, and thus feel hungry. In the light of the influence of this Islamic principle (not harming other members of society), and with the high rate of users per kitchen, pilgrims tended to use their bedroom for preparing their food. We can argue that they felt that preparing their food in the presence of 7 people (the average number of people per room), who are likely to be relatives and friends, is more satisfactory than doing it with the possibility of 47 pilgrims present. For the safety of pilgrims, the regulations clearly indicate that bedrooms should not be used as a cooking space. Our observation, however, shows that these regulations had failed to be implemented for the following reasons:

1. The lack of common kitchen equipment.
2. The small kitchen area per users.
3. The high rate of users per kitchen (average 47 pilgrim/ kitchen).
4. The lack of privacy and avoidance of sin for many people.
5. The lack of catering services in most of the buildings.
6. The undefined role of kitchens use.

7. The lack of co-operation among the high number of users.
8. The lack of maintenance and cleanliness.

The above reasons show that to have a kitchen that is shared by a number of rooms (as in the apartment style) is not advisable. It even occupies an area which should be used for more important activities such as sleeping and toilets. We believe that pilgrims who spend money to be in the Prophet's City might not get another chance to return because of the increase of the Muslim population, and the role of a Pilgrimage Quota from each country. Solving the problem of the dissatisfaction with the size of the kitchen does not mean having large kitchens. We argue that if the pilgrims find good catering or a service for providing them with ready food, they will spend their time in pursuit of their real purpose for being in al-Madina, that is religious activity, and thus be more satisfied. But does that mean designing the buildings without kitchens? To enable us to answer this question an evaluation of the kitchen activities and influence of these activities in terms of the distance and accessibility of the room to the kitchen is necessary. Therefore, the kitchen activities that might occur in the kitchen should be ranked in terms of need and safety³.

According to Table 10.1, and for the safety of pilgrims, some necessities could be within a short distance to the room (or within the room) such as a refrigerator, a tap for washing vegetables or fruit, facilitates for preparing hot drinks and possibly re-warming ready made food. Activities such as cooking food should be avoided near the sleeping area for fire safety, as well as pollution control. We believe that to allow the pilgrims to do some of the kitchen activities within the boundary of their rooms, while respecting safety, is much better than putting it to use in roles which may cause disaster. In that respect we can divide the kitchen activities into a room kitchenette for

³ Fire during pilgrimage time (especially in *Mina* area) was one of the problems that created many casualties during the last 25 years. The last fire in the area of *Mina*, where the fire spread over a wide area of pilgrims tents during the pilgrim season of 1997 AD, caused the Saudi Government, to decide to build 2,500,000 m² of tents (10,830 tents for a capacity of 500,000 pilgrims) made from fire resistant material (PTFE). The urgency of the issue led to the completion of 25 % of the 3 year project at a cost of 600 million SR (£100 million) in the pilgrim season of 1998 AD with the participation of 180 companies. al-RIYADH - 10875 - 34th Year, Friday 3-4-98. P3, and AL RIYADH - 10882 - 34th Year, Friday 10-4-98. P4.

the safer activities and a service kitchen where the food could be prepared by the accommodation staff with appropriate fire safety controls⁴.

Table 10.1 Rank order of Room - Kitchen Activities Need of Accessibility:

Kitchen activities	Rank of need	Rank of safety	activity total score	Rank of need to be accessible from the bedroom
Refrigerator (for Frozen and cold drink)	1	1	2	1
Washing vegetables or fruits	3	2	5	2
Preparing hot drinks (coffee and tea)	2	3	5	2
Re-warming ready-made food	4	4	8	4
Cooking food	5	5	10	5

The equipment needed for the safer activities are a refrigerator, a sink for washing, a boiler for preparing hot drinks, and a microwave oven for warming the ready made food. These equipments could be grouped in a kitchenette cabinet which needs only occupy 1 m² at the corner of the room.

10.2.8 Implication for Other Aspects within the Accommodation Level

Although the study shows that the majority of the pilgrims came with families of 2 to 4 members, the recommended number of pilgrims per room of 6, makes it seem difficult to house each family in one separate room. Also, the study did not determine exactly the degree of relationship among each family group. Consequently, it seems that

⁴ The new instructions of the Fire Department, in the pilgrimage of 1998 A.D, restricts the use of gas cylinders, woods and petrol in preparing foods at the Holy places of *Mina, Musdalifa and Arafat*. . al-RIYADH - 10866 - 34th Year, Wednesday 25-3-98. P4.

dividing each floor into a female section and male (that had been used to help in maintaining privacy between the two sex groups.) creates a lack of contact for family members in cases of emergency. Therefore, we would expect to allow a transition space (small room) for each area which would allow such contact without breaking the privacy of non-family members. Also, the provision of an intercom system, which allow emergency conversation, will allow contact between the two groups without effecting their privacy.

Another important aspect for the pilgrims, though not clearly visible, is the level of infrastructure and services. Minimising the number of users for the toilets and kitchens is expected to be reflected in more satisfaction with the building infrastructure and services. However, we should improve these facilities, which are very essential to maintaining a satisfaction level with the toilets and kitchens. Therefore, we look forward to a high consideration for the level of infrastructure, which takes in to account the maximum capacity of the building. Therefore, permits for pilgrims' accommodations should not only be considered on the average sleeping area of the building, but also should consider the capacity that its infrastructure can serve. We expect that improving the accommodation services of water and sewage systems will encourage the pilgrims to use the building's toilets rather than al-Haram public toilets. On the other hand, the provision of public card-operated telephone boxes in each storey will help to solve calling costs management and increase the satisfaction of this important service for travellers such as pilgrims.

The buildings lack equipment except water fountains. To achieve satisfactory clean and healthy living, equipment such as a washing machine, dryer and vacuum cleaner should be provided. The maintenance cost of the equipment seems to be the main reason for not providing it. However, having a washing room which contains a coin-operated washing and drying machine could be within the control of the building staff. Having such a washing room will enhance the interior appearance of the accommodation. The study demonstrated that the lack of washing and drying equipment leads the pilgrims to hang their clothes on doors and over stairwells. Also, a cleaning contract should be part of the requirement for issuing accommodation

permits to the owner of the building. A routine inspection should be done by the authority personnel to ensure the adequate operation of the equipment.

As indicated, pilgrims mostly choose their accommodation through their pilgrimage delegation. Defeterdar (1993)⁵ argues that although pilgrims pay for their accommodation in advance, some of the pilgrimage delegations tend to make savings by providing the pilgrims with accommodations that do not match what pilgrims pay for. He added that building owners only get 3% of its total value for accommodation and service costs, which is considered small compared to the rest of the world, where it may reach 8 to 10% of the building cost. Zetony (1993)⁶ argues that the accommodation renting costs depend mainly on location. Therefore, buildings in al-Anabea and al-Sulemania are the most expensive due to the short distance from al-Haram. Also, the buildings which are located east of al-Haram have higher rents than those located to the north, west and south of al-Haram.

Both renting and services costs were within the moderate level of satisfaction. However, the general increase of cost was due to the fact that those accommodations are mostly used by pilgrims for about 4 months a year and left vacant for the rest of the year. Therefore, the owner of the building tried to substitute the vacancy by increasing the cost of the building's rent and services during the pilgrimage season, and consequently, by the pilgrims' paying more. There was debate among the researchers, that these buildings should accommodate al-Madina residents during the off season of 8 months. We can argue that, although that will give the residents chance to live near al-Haram, they seem to have difficulties accepting the offers for the following reasons:

1. The cost of renting those building is very high compared to other peripheral neighbourhoods of the city.

⁵ Defeterdar (1993) Studying the administration and economic aspect of the pilgrims accommodation in al-Madina. The Accommodations : The Hajj Research Symposium. Unpublished, research No. 7, p9.

⁶ Zetony (1993) Administration and maintenance of the pilgrims accommodation. The Accommodations : The Hajj Research Symposium. Unpublished, research No. 8, p11.

- 2 The condition of those building is not as good as the new buildings in new neighbourhoods.
3. These buildings lack permanent furniture for family living.
4. It is difficult to continually change location especially for those who have school age children.
5. Parking is a problem in the city centre.
6. The good street network that connects al-Haram area with the rest of the city already allows easy access to al-Haram for those who live in new neighbourhoods for Friday prayers.

We should maintain here that visiting the Prophet' Mosque is not like the pilgrimage to Makkah, which has been specifically determined for a certain time of the year. Therefore, we can argue that pilgrims from Saudi Arabia and the nearest countries should be encouraged to make their visit to the city at non pilgrimage time. Their visit to al-Madina could be joined by *Umra* (visit to Makkah). This encouragement could reduce the travelling, renting and services costs during the non pilgrimage season. We expect that this policy will contribute to a saving for all the city visitors. It also will reduce the overcrowding which seems to be the main reason for dissatisfaction with most of the built environment aspects. Moreover, this will help to utilise the existing facilities in the off-season and reduce the seasonal fluctuation, as well as stimulate the city's economy all year round. Also, services costs are expected to be less if more specialist services companies were founded. Increasing the building permit numbers will reduce the building cost. Also, providing a good public transportation system from al-Haram to the more distant areas will encourage the pilgrims to live where rents cheaper than the central area.

It is hoped that these recommendations will increase the pilgrims satisfaction with their accommodation; their dissatisfaction mainly arises from the high number of pilgrims. Schools, which are usually off during the pilgrimage season, should be considered as alternatives for providing more temporary pilgrims' accommodations. The similarity between the hotel style and school, which are characterised basically by the number of

rooms or classes along intermediate corridor help to support this alternative. However, other aspects related to, provision of temporary division of large classrooms, toilets, kitchenettes, furniture and storing unused furniture should be considered.

10.3 Implication at the Neighbourhood and the City Levels

As most respondents were satisfied with the distance between their neighbourhood and al-Haram, we expect that pilgrimage accommodation should be kept in the central area and as close as possible to the Prophet's Mosque. However, because we maintain the same existing regulation of 2.5 m² per pilgrims, we do not expect that the recommendation related to decreasing the number of pilgrims per room found above will be reflected in housing for the pilgrims a long distance from al-Haram because the number of pilgrims per building will not decrease. However, the distance from al-Haram might not affect the pilgrims general attitude if they can reach it quickly enough to perform the five principle daily prayers. Therefore, a transportation system is needed to avoid dissatisfaction with the pilgrims' neighbourhood's distance from al-Haram.

The pilgrims seem not very interested in the size, layout, number of buildings and heights of the buildings within their neighbourhood or at the city level since they are just coming for short time. The aspects related to internal urban characteristics that the pilgrims seem most concerned with are the shops, restaurants and clinics.

The pilgrims show a high level of satisfaction with shops and restaurants due to the type of land use which is demonstrated by the residential / commercial use. Shops around al-Haram should meet the pilgrims needs and in particular, gift shops. However, the pilgrims should be encouraged to pay for these gifts just prior to their leaving time, so that the need for storage space within the accommodation will be minimised. This encouragement could be through providing the city airport and the pilgrimage centres at the city gates with shops carrying less expensive items.

In regard to restaurants, we might expect that the above recommendation which advises not to allow unsafe kitchen activities in the pilgrims' living area will increase the need for more restaurants. We can argue that this depends on the level of catering services for each accommodation.

However, it is much better to allow for more restaurants with safety rather than let the pilgrims cook in their rooms. A co-operative good management should be maintained between the restaurants and pilgrims' accommodation owners in each area. Pilgrims can be offered a menu of the available food which can be delivered to their rooms from the nearest restaurants. These menus should consider the food type for the nationality type that may occupy the buildings within the area. We believe that if the pilgrims know the available services of these restaurants near to their accommodation, they will save time for the real religious purpose of their journey.

Adequate clinics is the neighbourhood level characteristic with the lowest satisfaction level. Therefore, we look forward to improving services to maintain good clinics. To maintain good clinical services there should be a planning regulation which divides the accommodation into groups where each could be served by a specific clinic. Thereby, pilgrims will know which clinic they are supposed to go to, and the clinics will know their responsibility in a service area.

The irregular walkways and road patterns reflect the traditional style, however, in the case of al-Madina, a straight pattern should be considered. Thereby, pilgrims (as travellers with little experience with the city) can find their way to al-Haram easily. In this way al-Haram will preserve its importance as a landmark and focal point of the city, which seems to have been lost due to the high buildings.

For the safety of pilgrims we propose that the central area will be pedestrianised, with only limited provision for public or delivery services. Service trucks (such as water tanks and garbage collection heavy equipment) should not operate during peak hours to avoid blocking the roads. The public transportation and delivery services roads could be underground with the pedestrian ways above them at the ground level. These

pedestrian ways could be provided with arcades which allow the expansion of the accommodation to the upper floors over these arcades. The width of pedestrian ways should be gradually increased toward the direction to al-Haram, where the volume of pilgrims is accordingly increased. Also, to achieve more pilgrims' satisfaction with road and pedestrian ways, elderly and disabled people and their companions should have priority in accommodation near to al-Haram.

As mentioned, the transportation system is needed between the accommodation and al-Haram. Therefore, the provision of a good schedule and regular public transportation should be considered for the future expansion to allow the pilgrims to live outside the city centre, yet reaching al-Haram for the five daily prayers. School buses could help transport pilgrims during the pilgrimage season.

By providing the private telephone cabinets as mentioned in chapter 3, the dissatisfaction with public telephones seems to have been rectified recently after the field work of this study. However, we recommend that these cabinets, which contain only telephone and fax service, should have incorporated post office services, especially during the pilgrimage seasons.

With regard to city / neighbourhood public toilets, we expect that the number of users will decrease once we use the hotel style and provide each room with a separate toilet as recommended at the accommodation level. However, special care should be taken to maintain the city public toilets.

Cleanliness at the neighbourhood and city levels seems to be the most important aspect of aesthetic value, therefore, pilgrims, as well as the owners of accommodations, shops, and restaurants should be aware of the effect of cleanliness on health and on the appearance of the Prophet's City. The high temperatures in the city may create a bad smell from the garbage, therefore, garbage should be regularly removed.

Landscaping with local palm trees should be encouraged along both the two sides of the pedestrian ways for shading and increasing the aesthetic value of the city. Also, agriculture should be encouraged in the farms around the city.

10.4 Future Research

Although, this research tried to investigate the pilgrims' level of satisfaction at all levels of the built environment, relating the satisfaction level to the exact situation has only been measured at the accommodation level. Therefore, further research is needed to relate the satisfaction level with the neighbourhood and city to the quantitative measure of the characteristics of these macro levels.

Also, this research proposes an alternative type of furniture, yet an investigation of the real satisfaction with the suggested and other types of furniture is needed.

Measuring the satisfaction of other people involved in accommodations such as building owners, building staff, permanent residents, the pilgrims delegations, the pilgrims national guide personnel, and other people in authority is a subject for future research.

At the time of the research, the new development projects were in progress, a study of these project after being used, from the pilgrims point of view, is needed.

This study suggests using schools as another alternative for accommodating the pilgrims during the season. Therefore, a design proposal is needed to utilise the schools for dual usage.

There is a significant need for more study related to user-control and housing management. Also, studies to examine the level of maintenance at pilgrims' accommodations and the level of satisfaction with such maintenance are needed in the future.

Further research is important to study in detail the economic aspects that can be gained from the pilgrims, not only in accommodation, but also in the provision of satisfactory services that help them to perform their duties according to the purpose of their journey.

Appendix **A**

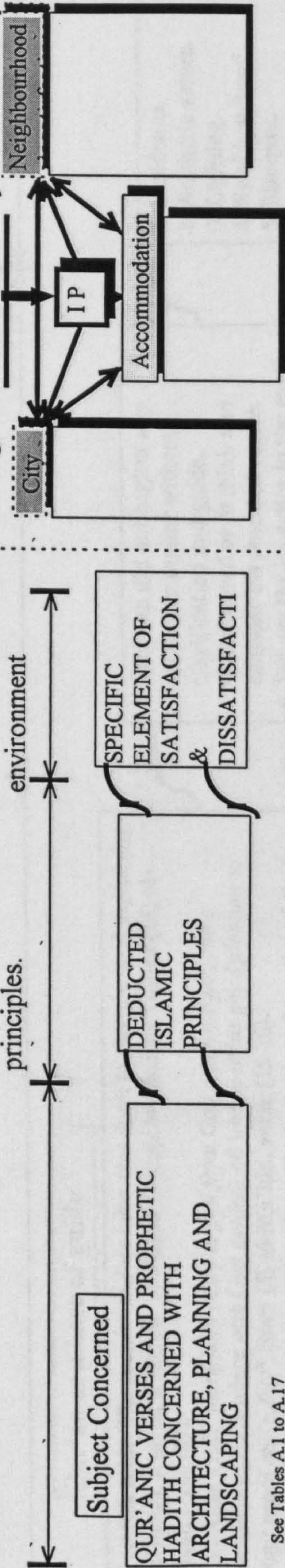
**Qur'an and The Prophet's Sayings
and the Islamic Principles Related
to Specific Elements of Satisfaction
or Dissatisfaction**

Step 1: Selecting the related verses of Qur'an and the Prophet's sayings.

Step 2: Interpret the meaning that could be understood from Step 1 to specify the Islamic principles.

Step 3: develop the specific elements of satisfaction and dissatisfaction issues of the built environment

Step 4: Using Step 3 to build a framework for the major aspects of satisfaction for the tree level of built environment: the accommodation, the neighbourhood and the city.

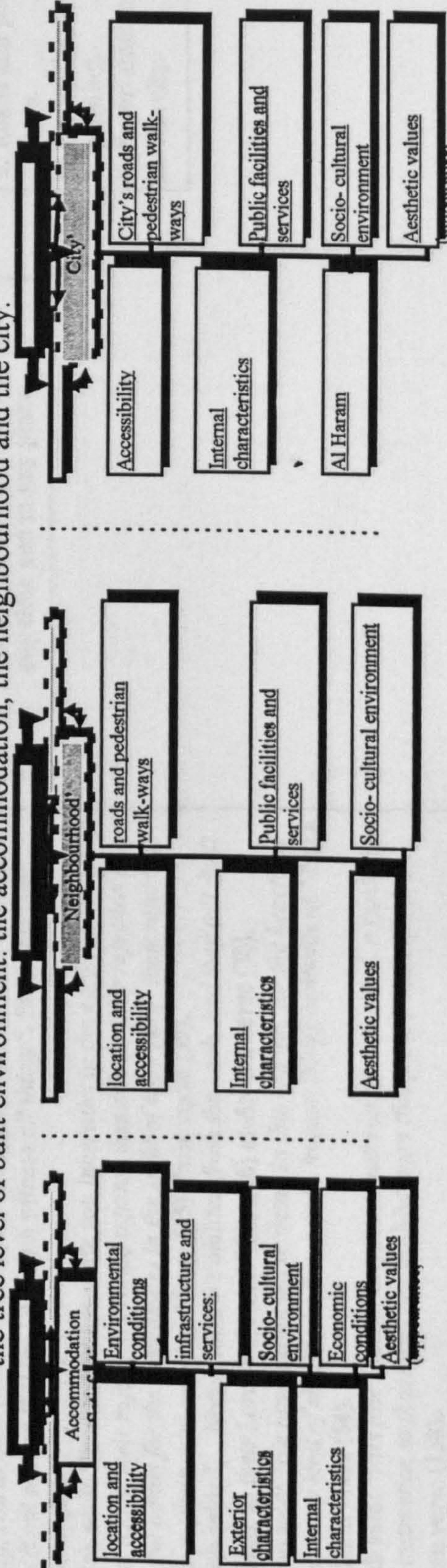


See Tables A.1 to A.17

How to Use Appendix A

See Fig A.1 A Model of Built Environment Satisfaction Based on Islamic Principles

Step 5: Using Step 4 (the major aspects of satisfaction) to develop the minor aspects (variables) of satisfaction for the tree level of built environment: the accommodation, the neighbourhood and the city.



See Fig A.2 A Model of Accommodation's Satisfaction Based on Islamic Principles

See Fig A.3 A Model of Neighbourhood's Satisfaction Based on Islamic Principles

See Fig A.4 : A Model of City's Satisfaction Based On Islamic Principles

Table A.1: Qur'an as a base of guide

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
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Qur'an as a base of guide

- 1 . Allah said: *"The people: and we have sent down to thee the book explaining all things, a guide, a Mercy, and Glad Tidings to Muslims."* (Sura (16) al-Nahl, verse (89)).
- 2 . Allah said: *"there hath come to you from God a (new) light, and a perspicuous Book where with God guideth all who seek his good pleasure to ways peace and safety".* Sura (5) al-Ma'ida, verse (15-16).
- 3 . Allah said: *"Here is a book which we have sent down Unto thee, full of blessings. That they may meditate, on its signs, and that men of understanding may receive admonition."* Sura (38) Sad, Verse (29).
- 4 . Allah said: *"Soon will we show them Our Signs in the (furthest) regions (of the earth), and in their own souls, until it becomes manifest to them that is the truth. Is it not enough that thy Lord doth witness all things".* Sura (41) Ha-mim, verse (53).
- 5 . Allah said: *"He it is that has made you inheritors in the earth: if, then, any do reject (God), their rejection (works) against themselves: their rejection but adds to the odium for the unbelievers in the sight of their Lord: their rejection but adds to (their own) undoing."* Sura (35) Fatir verse (39).
- 6 . Allah said: *"... Noting have we omitted from the book, and they (all shall be gathered, to their Lord in the end."* Sura (6) al-An'am verse (38).
- 7 . Allah said: *"We have explained in detail in this Qur'an, for the benefit of mankind, every kind of similitude: but man is, in most things contentious."* Sura (18) al-Kahf verse (54).
8. Allah said: *"This (the Qur'an) is a plain statement for mankind, a guidance and instruction to those who are Al-Muttaqun (the pious)* Sura (3) al-Imran verse (138).

- Qura'an did not neglect any verdict or matter without clarification and guide.
- God ordered us to think and consider his revealed verses.
- We are the inheritor in the earth, thus we have to use it for our life in good deed.
- The guidance and instructions of the Qur'an are to all mankind, at any time and in any place.

1. Residence.
2. Aesthetic values.
3. Lighting.
4. Neighbourhood.
5. Mosques.
6. Drinking, ablution and toilets.
7. Market places.
8. Education.
9. Roads and pedestrians ways.
10. Harvesting and planting.
11. Entertainment.
12. The city.

Table A.1: Qur'an as a base of guide (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
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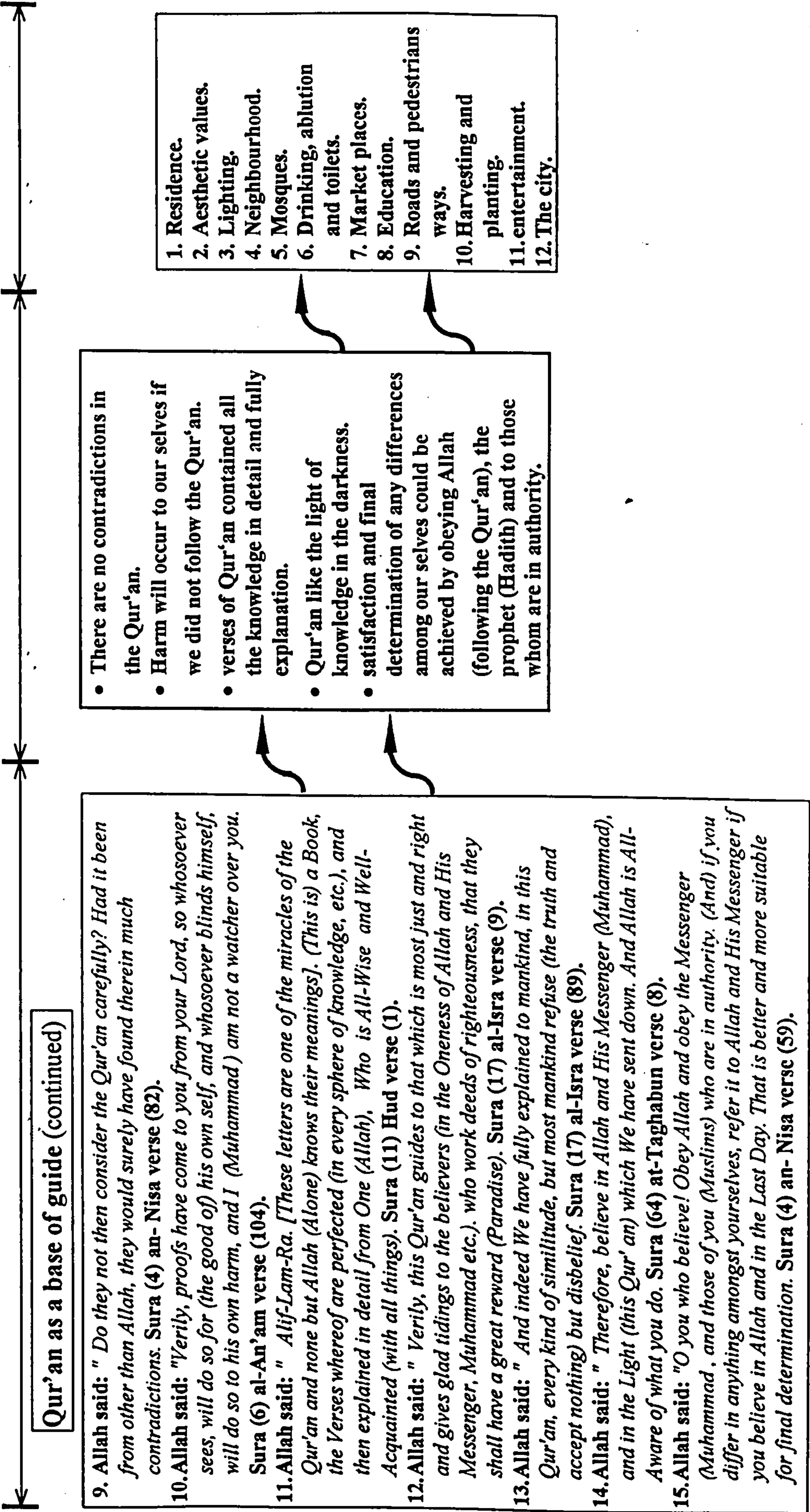


Table A.2: Hadith as a base of guide

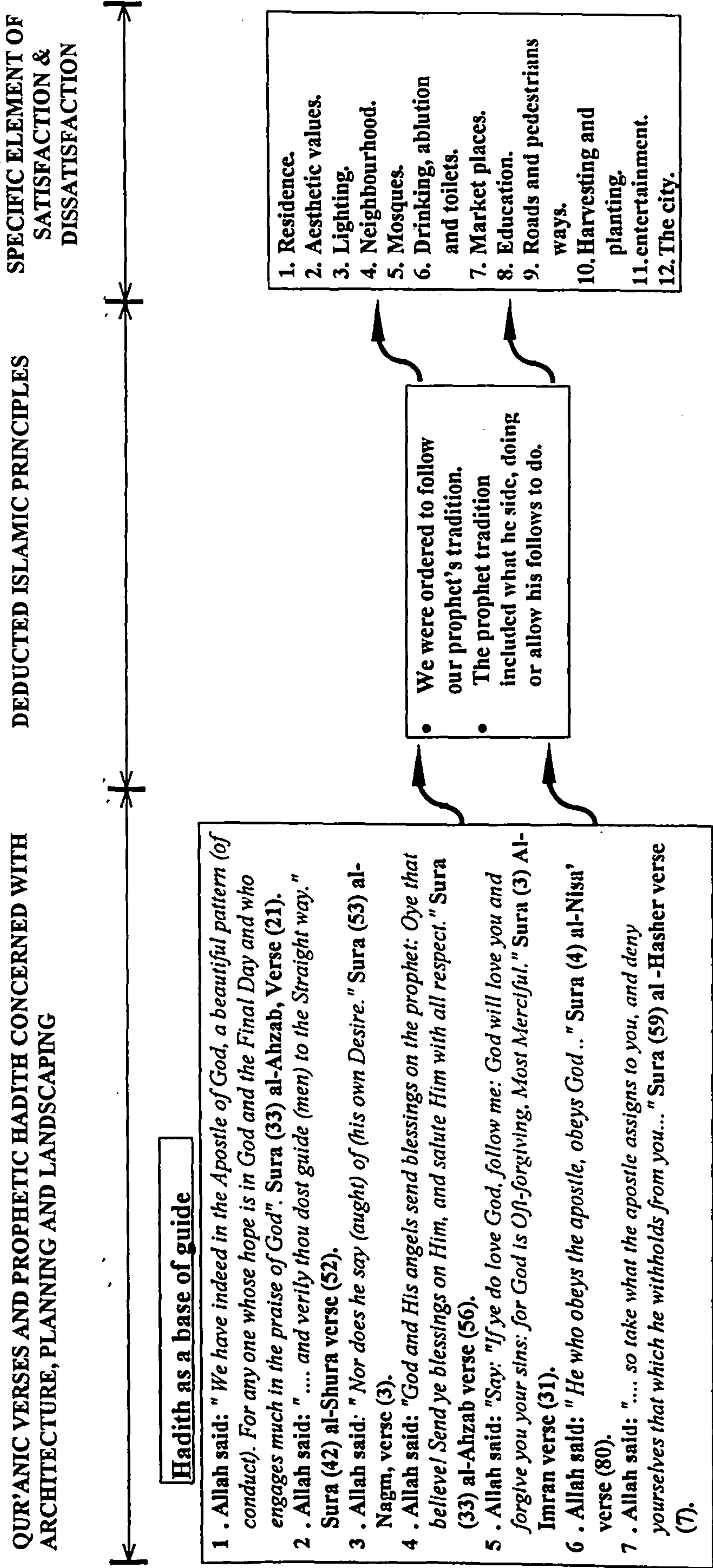


Table A.3: General guides

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>General guides</div> <div><p>1 . Allah said: " I have only created Jinns and men, that they may serve Me." Sura (51) al-Zariyat verse (56).</p><p>2 . Allah said: "Behold, thy Lord said to the angels: "I will create a vicegerent on earth..." " Sura (2) al-Baqara verse (30).</p><p>3 Allah said: "But seek, with the (wealth) which God has bestowed on thee the home of the Hereafter, nor forget thy portion in this world, but do thou good, as God has been good to thee, and seek not (occasions) for mischief in the land: For God loves not those who do mischief." Sura (28) al-Qasas verse77</p><p>4 . Allah said: "Verily spendthrifts are brothers of the evil ones; and the evil one is to his Lord (Himself) ungrateful." Sura (17) al-Isra verse (27).</p><p>5 . Allah said: "make not thy hand tied (like a niggard's) to thy neck, nor stretch it forth to its utmost reach, so that thou be come blameworthy and destitute." Sura (17) al-Isra verse (29).</p><p>6 . Allah said: "Eat of the good thing We have provided for your sustenance, but commit no excess therein, lest My wrath should justly descend on you: and those on whom descends My wrath do perish indeed!" Sura (20) Taha verse (81).</p><p>7 . Allah said: "say: who hath forbidden the beautiful (gifts) of God, which He hath produced for His servants, and the things, clean and pure, (which He hath provided) for sustenance: Say: they are, in the life of this world, for those who believe, (and) purely for them on the Day of Judgement. Thus do We explain the signs in detail for those who understand * Say: the things that my Lord hath indeed forbidden are: shameful deeds, whether open or secret; sins and trespasses against truth or reason; assigning of partners to God, for which He hath given no authority: And saying things about God of which ye have no knowledge *" Sura (7) al-A'raf verse (32-33).</p></div>	<div><ul style="list-style-type: none">• The complete worship in Islam is the worship of God alone.• The man is a vicegerent on the earth.• Islam forbids man's extravagance in seeking the hereafter, thus forgetting his life.• Moderation in world affairs and enjoyment of any such lawful things as esteemed pleasant.• Not to exceed all bounds and spend lavishly on buildings.• Islam is religious of Equalisation and Moderation.</div>	<div><ul style="list-style-type: none">1. Residence.2. Aesthetic values.3. Lighting.4. Neighbourhood.5. Mosques.6. Drinking, ablution and toilets.7. Market places.8. Education.9. Roads and pedestrians ways.10. Harvesting and planting.11.entertainment.12.The city.</div>

Table A.3: General guides (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>General guides (continued)</div> <div>8 . Allah said: "...Nor walk in insolence through the earth; for Allah loveth not any arrogance boaster." Sura Luqman (31) verse (18).</div> <div>9 . Prophet (pbuh) said: "No differentiation between the Arabs and the non-Arabs except for their good conduct."</div> <div>10 . Allah said in His heavenly hadith: " the nobleness is my shroud, the Mightiness is my Garment (i.e., unique characteristics), anyone intends to compare himself with me, will be punished in the hereafter life."</div> <div>11 . Allah said "and say: work (righteousness). Soon will God observe your work and His Apostle, and the Believers; soon will Ye be brought back to the knower of what is hidden and what is open; Then will He show you the truth of all that ye did" sura al -Tauba veres 105</div> <div>12 Allah said: "And certainly We shall test you with something of fear, hunger, loss of wealth, lives and fruits, but give glad tidings to As-sabirin (the patient ones, etc.). Sura (2) al-Baqarah verse(155)</div> <div>13 Allah said: "The likeness of those who spend their wealth in the Way of Allah, is as the likeness of a grain (of corn); it grows seven ears, and each ear has a hundred grains. Allah gives manifold increase to whom He pleases. And All-</div> <div>14 Sufficient for His creatures' needs, All -Knower. Sura (2) al-Baqarah verse (261).</div> <div>15 Allah said: "Let there arise out of you a group of people inviting to all that is good (Islam), enjoining Al-Ma 'ruf (i.e. Islamic Monotheism and all that Islam orders one to do) and forbidding Al-Munkar (polytheism and disbelief and all that Islam has forbidden). And it is they who are the successful. Sura (3) al- Imran verse (104).</div> <div>16 Allah said: " And be patient; verily, Allah loses not the reward of the good-doers. Sura (11) Hud verse (115).</div> <div>• Islam forbidden the prides.</div> <div>• All Muslims are equal whatever their race, languages or original, except for their good conduct.</div> <div>• Islam encourage us for good work, for being patient, for spend in charity.</div> <div>• We are ordered to enjoy the Islamic monotheism and forbidding the polytheism.</div> <div>1. Residence.</div> <div>2. Aesthetic values.</div> <div>3. Lighting.</div> <div>4. Neighbourhood.</div> <div>5. Mosques.</div> <div>6. Drinking, ablution and toilets.</div> <div>7. Market places.</div> <div>8. Education.</div> <div>9. Roads and pedestrians ways.</div> <div>10. Harvesting and planting.</div> <div>11. entertainment.</div> <div>12. The city.</div>		

Table A.3: General guides (continued)

DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>General guides (continued)</div> <div>17.Allah said: "It is not Al-Birr (piety, righteousness, and each and every act of obedience to Allah etc.) that you turn your faces towards east and (or) west (in prayers); but Al-Birr is (the quality of) the one who believes in Allah, the Last Day, the Angels, the Book, the Prophets and gives his wealth, in spite of love for it, to the kinsfolk, to the orphans, and to Al-Masakin (the poor), and to the wayfarer, and to those who ask, and to set slaves free, performs As-Salat (Iqdmata-as-Salat), and gives the Zakat, and who fulfill their covenant when they make it, and who are As-Sabirin (the patient ones etc.) in extreme poverty and ailment (disease) and at the time of fighting (during the battles). Such are the people of the truth and the are Al-Muttaqun . Sura (2) al-Baqarah verse(177).</div> <div>18.Allah said: "And spend in the Cause of Allah (i.e. Jihad of all kinds, etc.) and do not throw yourselves into destruction (by not spending your wealth in the Cause of Allah), and do good. Truly, Allah loves Al-Muhsinin (the good-doers). Sura (2) al-Baqarah verse(195).</div> <div>19.Allah said: "You [true believers in Islamic Monotheism, and real followers of Prophet Muhammad and his Sunnah (legal ways, etc.)] are the best of peoples ever raised up for mankind; you enjoin Al-Ma 'ruf (i.e. Islamic Monotheism and all that Islam has ordained) and forbid Al-Munkar (polytheism, disbelief and all that Islam has forbidden), and you believe in Al Iihl . And had the people of the Scripture (Jews and Christians) believed, it would have been better for them; among them are some who have faith, but most of them are Al-Fasiqun (disobedient to Allah -and rebellious against Allah's Command). Sura (3) al- Imran verse (110)</div> <div>20.Allah said: "Allah wishes to lighten (the burden) for you; and man was created weak (cannot be patient to leave sexual intercourse with woman). Sura (4) an- Nisa verse (28)..</div>	<div>The articles of faith are to believe in: 1. Allah 2. His Angels 3. His Messengers 4. His revealed Books 5. The Day of Resurrection and 6. Divine Preordainment</div> <div>Islam determined the ways that we should give our wealth in.</div> <div>Fulfilling the convenient is a characters of good Muslim.</div> <div>Allah loves the good-doers.</div> <div>1. Residence. 2. Aesthetic values. 3. Lighting. 4. Neighbourhood. 5. Mosques. 6. Drinking, ablution and toilets. 7. Market places. 8. Education. 9. Roads and pedestrians ways. 10. Harvesting and planting. 11.entertainment. 12.The city.</div>

Table A.3: General guides (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>General guides (continued)</div> <div>21.Allah said: "Forbidden to you (for food) are: Al-Maytatah (the dead animals - cattle-beast not slaughtered), blood, the flesh of swine, arid the meat of that which has been slaughtered as a sacrifice for others than Allah, or has been slaughtered for idols, etc., or on which Allah's Name has not been mentioned while slaughtering, and that which has been killed by strangling, or by a violent blow, or by a headlong fall, or by the goring of horns - and that which has been (partly) eaten by a wild animal - unless you are able to slaughter it (before its death) - and that which is sacrificed (slaughtered) on An-Nusub(stone altars). (Forbidden) also is to use arrows seeking luck or decision, (all) that is Fisqun (disobedience of Allah and pin). This day, those who disbelieved have given up all hope of your religion, so fear them not, but fear Me. This day, I have perfected your religion for you, completed My Favour upon you, and have chosen for you Islam as your religion. But as for him who is forced by severe hunger, with no inclination to sin (such can eat these above-mentioned meats), then surely, Allah is Oft-Forgiving, Most Merciful. Sura (5) al-Ma'idah verse (3).</div> <div>22.Allah said: "And it is He Who produces gardens trellised and untrellised, and date-palms, and crops of different shape and taste (its fruits and its seeds) and olives, and pomegranates, similar (in kind) and different (in taste). Eat of their fruit when they ripen, but pay the due thereof (its Zakat according to Allah's Orders 1/10th or 1/ 20th) on the day of its harvest, and waste not by extravagance. Verily, He likes not Al-Musrifun (those who waste by extravagance. Sura (6) al-An'am verse (141).</div> <div>23.Allah said: " Would that they were contented with what Allah and His Messenger gave them and had said: "Allah is Sufficient for us. Allah will give us of His Bounty, and (also) His Messenger (from alms, etc.). We implore Allah (to enrich us). Sura (9) at- Taubah verse (59).</div>	<div>• Islam is a way of live interim of selecting food for eating.</div> <div>• Islam is completed and perfect religion.</div> <div>• Variety of trees type interim of shape and taste give as variety of landscaping type depending in the environmental conditions.</div> <div>• We are ordered to pay the due there of according to Allah's orders.</div> <div>• Waste by extravagance is forbidding.</div>	<div>1. Residence.</div> <div>2. Aesthetic values.</div> <div>3. Lighting.</div> <div>4. Neighbourhood.</div> <div>5. Mosques.</div> <div>6. Drinking, ablution and toilets.</div> <div>7. Market places.</div> <div>8. Education.</div> <div>9. Roads and pedestrians ways.</div> <div>10. Harvesting and planting.</div> <div>11.entertainment.</div> <div>12. The city.</div>

Table A.3: General guides (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
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General guides (continued)

24. Allah said: "And those who remain patient, seeking their Lord's Countenance, perform As-Salat (Iqamat-as-Salat), and spend out of that which We have bestowed on them, secretly and openly, defend evil with good, for such there is a good end; Sura (13) ar-Ra'd verse (22).
25. Allah said: "And say not concerning that which your tongues put forth falsely: "This is lawful and this is forbidden," so as to invent lies against Allah. Verily, those who invent lies against Allah will never prosper. Sura (16) an-Nahl verse (116).
26. Allah said: "And it is He Who makes the night a covering for you, and the sleep (as) repose, and makes the day Nushur (i.e. getting up and going about here and there for daily work, etc. after one's sleep at night or like resurrection after one's death). Sura (25) al-Furqan verse (47).
27. Allah said: " And those, who, when they spend, are neither extravagant nor niggardly, but hold a medium (way) between those (extremes). Sura (25) al-Furqan verse (47).
28. Allah said: "Say (O Muhammad): "O My slaves who believe (in the Oneness of Allah -Islamic Monotheism), be afraid of you! Lord (Allah) and keep your duty to Him. Good is (the reward) for those who do good in this world, and Allah's earth is spacious (so if you cannot worship Allah at a place, then go to another)! Only those who are patient shall receive their rewards in full, without reckoning. Sura (39) az-Zumar verse (10).
29. Allah said: " Do they not know that Allah enlarges provision for whom He wills, and straitens it (for whom He wills). Verily, in this are signs for the folk who believe! Sura (39) az-Zumar verse (52).

- Being patient.
- Perform the prayers.
- Spend out for charity secretly and openly
- saying the truth.
- the good time for sleeping and get rest is the night time and for the work is the day time.
- The medium way is the best.
- We are ordered to do good in this world.

1. Residence.
2. Aesthetic values.
3. Lighting.
4. Neighbourhood.
5. Mosques.
6. Drinking, ablution and toilets.
7. Market places.
8. Education.
9. Roads and pedestrians ways.
10. Harvesting and planting.
11. entertainment.
12. The city.

Table A.3: General guides (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>General guides (continued)</div> <div>30.Allah said: " And has subjected to you all that is in the heavens and a~ that is in the earth; it is all as a favour and kindness from Him. Verily, in it are signs for a people who think deeply. Sura (45) al-Jathiyah verse (25). 31.Allah said: "So keep your duty to Allah and fear Him as much as you can; listen and obey; and spend in charity, that is better for yourselves. And whosoever is saved from his own covetousness then they are the successful ones. Sura (65) at-Talaq verse (16). 32.Allah said: "Verily, those who believe [in the Oneness of Allah, and in His Messenger Muhammad including all obligations ordered by Islam] and do righteous good deeds, they are the best of creatures. Sura (98) al-Baiyinah verse (7) 33.Narrated Jbn 'Umar Allah's Messenger (pbuh) , said, : 'Islam is based on (the following) five principles: 1.To testify that La ilaha ill-Allah wa anna Muhammad-ar-Rasul Allah (none has the right to be worshipped but Allah and Muhammad, is the Messenger of Allah). 2.Iqamat-as-Salat [To perform the (compulsory congregational) prayers)]. 3.To pay the Zakat 4.To perform Hajj. (i.e. pilgrimage to Makka). 5.To observe Saum (fasts) during the month of Ramadan Sahih Al-Bukhari. Hadith No.7, Vol.1) 34.Allah said: "Allah burdens not a person beyond his scope He gets reward for that (good) which he has earned and he is punished for that (evil) which he has earned "Our Lord! Punish us not if we forget or fall into error, our Lord! Lay not on us a burden like that which You did lay on those before us (Jews and Christians; our 'Lord! Put not on us a burden. Sura (2) al-Baqarah verse(286).</div>	<div><ul style="list-style-type: none">• All thing in the earth and heavens was subjected to us.• spend out in charity is one of the Islam requirement• those who believe in Allah and his Messenger are the best.• the five main principles of Islam are: <ol style="list-style-type: none">1. to testify that none has the right to be worshipped but Allah and Mohammed, is the messenger of Allah.2. to perform the prayers3. to pay the Zakat (Charity).4. to perform the pilgrimage.5. to observe fasts during month of Ramadan.• Islam dose not ask any one something that beyond his scope, and Allah will not punish those who forget.</div>	<div><ol style="list-style-type: none">1. Residence.2. Aesthetic values.3. Lighting.4. Neighbourhood.5. Mosques.6. Drinking, ablution and toilets.7. Market places.8. Education.9. Roads and pedestrians ways.10. Harvesting and planting.11. entertainment.12. The city.</div>

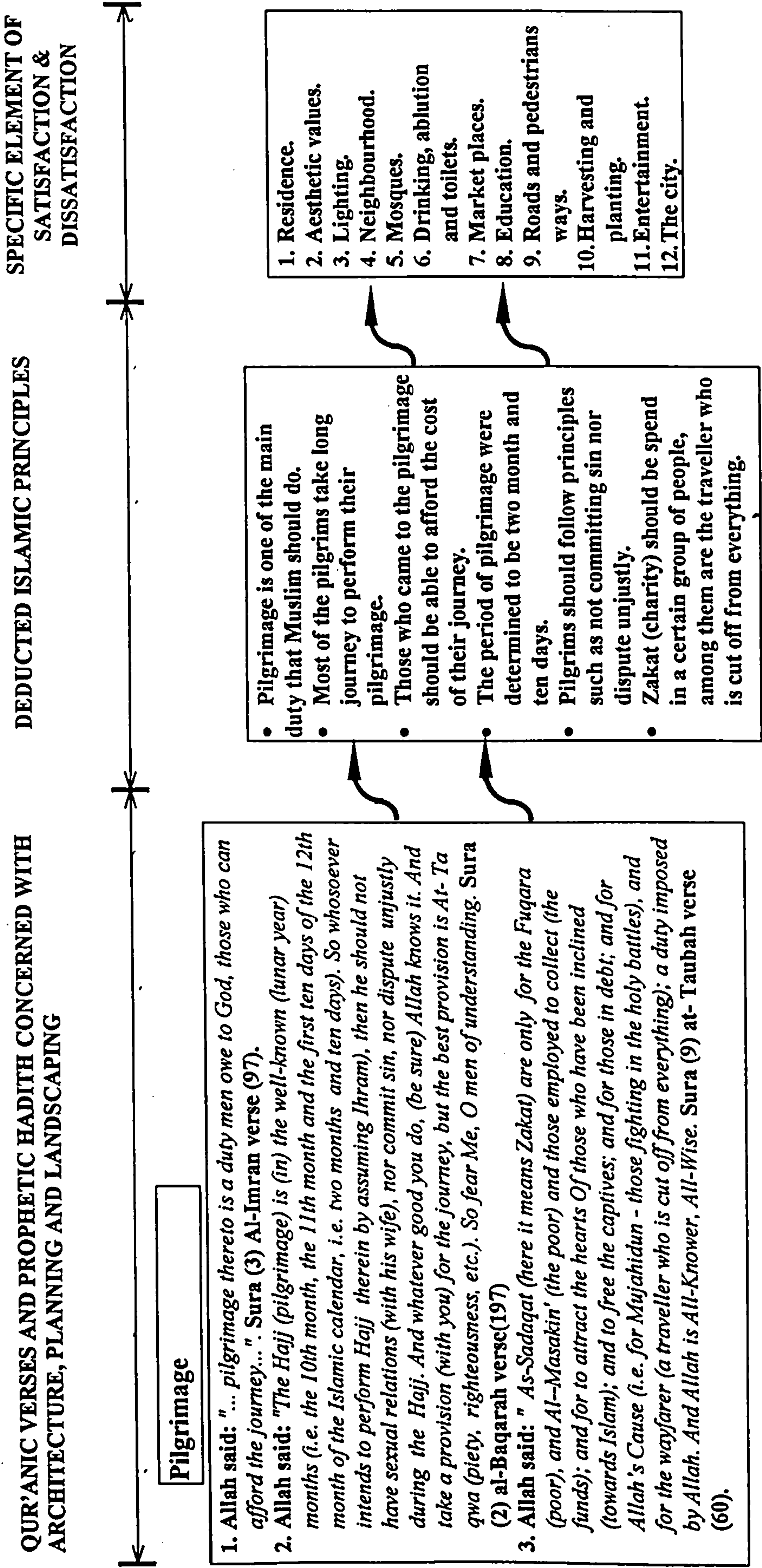
Table A.3: General guides (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>General guides</div> <div>35.Allah said: "So when you have finished (from your occupation), then stand up for Allah's worship (i.e. stand up for prayer).Sura (94) ash-Sharh verse 7</div> <div>36.Allah said: " Whosoever does an evil deed, will not be requited except the like thereof, and whosoever does a righteous deed, whether male or female and is a true believer (in the Oneness of Allah), such will enter Paradise, where they will be provided therein (with all things in abundance) without limit. Sura (40) Ghafir verse (40).</div> <div>37.Allah said: " O you who believe! Endure and be more patient (than your enemy), and guard your territory by stationing army units permanently at the places from where the enemy can attack you, and fear Allah, so that you may be successful. Sura (3) al- Imran verse (200).</div> <div>38.Allah said: "Verily! Allah forgives not (the sin of) setting up partners in worship with Him, but He forgives whom he pleases sins other than that, and whoever sets up partners in worship with Allah, has indeed strayed far away. Sura (4) an- Nisa verse (116).</div> <div>39.Narrated Abu Huraira The Prophet (pbuh) said, "Faith (Belief) consists of more than sixty subdivisions or branches (i.e. parts). And Al-Haya' (The term Al-Haya covers a large number of concepts which are to be taken together; amongst them are self respect, modesty, bashfulness, honour, etc.) is a part of faith. " (Sahi'h Al-Bukhari, Hadith No.8, Vol.1)</div> <div>40.Narrated 'Abdullah bin 'Amr : A man asked the Prophet (pbuh) "Whose Islam is good, or what sort of deeds (or what qualities) of Islam are good?" The Prophet (pbuh) replied, "To feed (others) and to greet those whom you know and those whom you do not know. " (Sahih Al-Bukhari; Hadith No. 11, Vol.1)</div> <div>41.Narrated 'Aisha : The Prophet (pbuh) used to like to start from the right side on wearing shoes, combing his hair and cleaning or washing himself and on doing anything else. (Sahih Al-Bukhari; Hadith No. 169, Vol.1)</div>	<div>• Perform praying.</div> <div>• The degree of reward depend in the quality of work.</div> <div>• reinforcement and security is required for the community.</div> <div>• self respect, modesty, bashfulness, honour are parts of faith.</div> <div>• greeting of other.</div> <div>• starting all the activities from the right side is preferable.</div>	<div>1. Residence.</div> <div>2. Aesthetic values.</div> <div>3. Lighting.</div> <div>4. Neighbourhood.</div> <div>5. Mosques.</div> <div>6. Drinking, ablution and toilets.</div> <div>7. Market places.</div> <div>8. Education.</div> <div>9. Roads and pedestrians ways.</div> <div>10. Harvesting and planting.</div> <div>11.entertainment.</div> <div>12. The city.</div>

Table A.3: General guides (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>General guides (continued)</div> <div>42.Narrated Abu Huraira Allah's Messenger, (pbuh) was asked, "What is the best deed?" He replied, "To believe in Allah and His Messenger (Muhammad) The questioner then asked, "What is the next (in goodness)?" He replied, To participate in Jihad (holy fighting) in Allah's Cause." The questioner again asked, "What is next (in goodness)?" He replied, "To perform Hajj (pilgrimage to Makka) Mabru" (which is accepted by Allah and is performed with the intention of seeking Allah's Pleasure only and not to show off and without committing a sin and in accordance with the legal ways of the Prophet (pbuh)). (Sahih Al-Bukhari Hadith No.25. Vol.1)</div> <div>43.Narrated Abu Huraira Allah's Messenger (pbuh) said, "The food of two persons is sufficient for three, and the food of three persons is sufficient for four persons." (Sahih Al-Bukhari, Hadith No.304, Vol.7)</div> <div>44.Narrated Abu Huraira The Prophet (pbuh) never criticised any food (presented to him), but he would eat it if he liked it; otherwise would leave it (without expressing dislike). (Sahih Al-Bukhari, Hadith 764, Vol.4)</div> <div>45.Narrated 'Uqba bin 'Amir Allah's Messenger (pbuh) said. "Beware of entering upon the ladies.' A man from the Ansar said, 'Allah's Messenger! What about Al-Hamu (the in-laws of the wife i.e. the brothers of her husband or his nephews etc.)? The Prophet replied: The in-laws (Al-Hamu) of the wife are death itself. (Sahih Al-Bukhari, Hadit No. 159 Vol.7)</div> <div>46.Narrated 'Umar bin Abi Salama:1 was a boy under the Allah's Messenger (pbuh) and my hand used to go around the dish while eating. So Allah's Messenger(pbuh) said to me, "O boy! Mention the Name of Allah and eat with your right hand, and eat of the dish what is nearer to you." Since then I have applied those instructions when eating. (Sahih Al-Bukhdri, Hadith No.288, Vol.7)</div> <div><ul style="list-style-type: none">• Islam ordered us to Char the food among ourselves.• Criticising the food is forbidding.• Privacy is essential among the community members.• Islam determined the eating behaviour as:<ol style="list-style-type: none">1. mentioning the name of Allah before we start.2. eating with right hand.3. eating what is nearer of the dish.</div> <div><ol style="list-style-type: none">1. Residence.2. Aesthetic values.3. Lighting.4. Neighbourhood.5. Mosques.6. Drinking, ablution and toilets.7. Market places.8. Education.9. Roads and pedestrians ways.10. Harvesting and planting.11.entertainment.12. The city.</div>		

Table A.4: Pilgrimage



- Pilgrimage is one of the main duty that Muslim should do.
- Most of the pilgrims take long journey to perform their pilgrimage.
- Those who came to the pilgrimage should be able to afford the cost of their journey.
- The period of pilgrimage were determined to be two month and ten days.
- Pilgrims should follow principles such as not committing sin nor dispute unjustly.
- Zakat (charity) should be spend in a certain group of people, among them are the traveller who is cut off from everything.

- 1. Residence.
- 2. Aesthetic values.
- 3. Lighting.
- 4. Neighbourhood.
- 5. Mosques.
- 6. Drinking, ablution and toilets.
- 7. Market places.
- 8. Education.
- 9. Roads and pedestrians ways.
- 10. Harvesting and planting.
- 11. Entertainment.
- 12. The city.

Table A.5: Aesthetic Values and Interior Design *

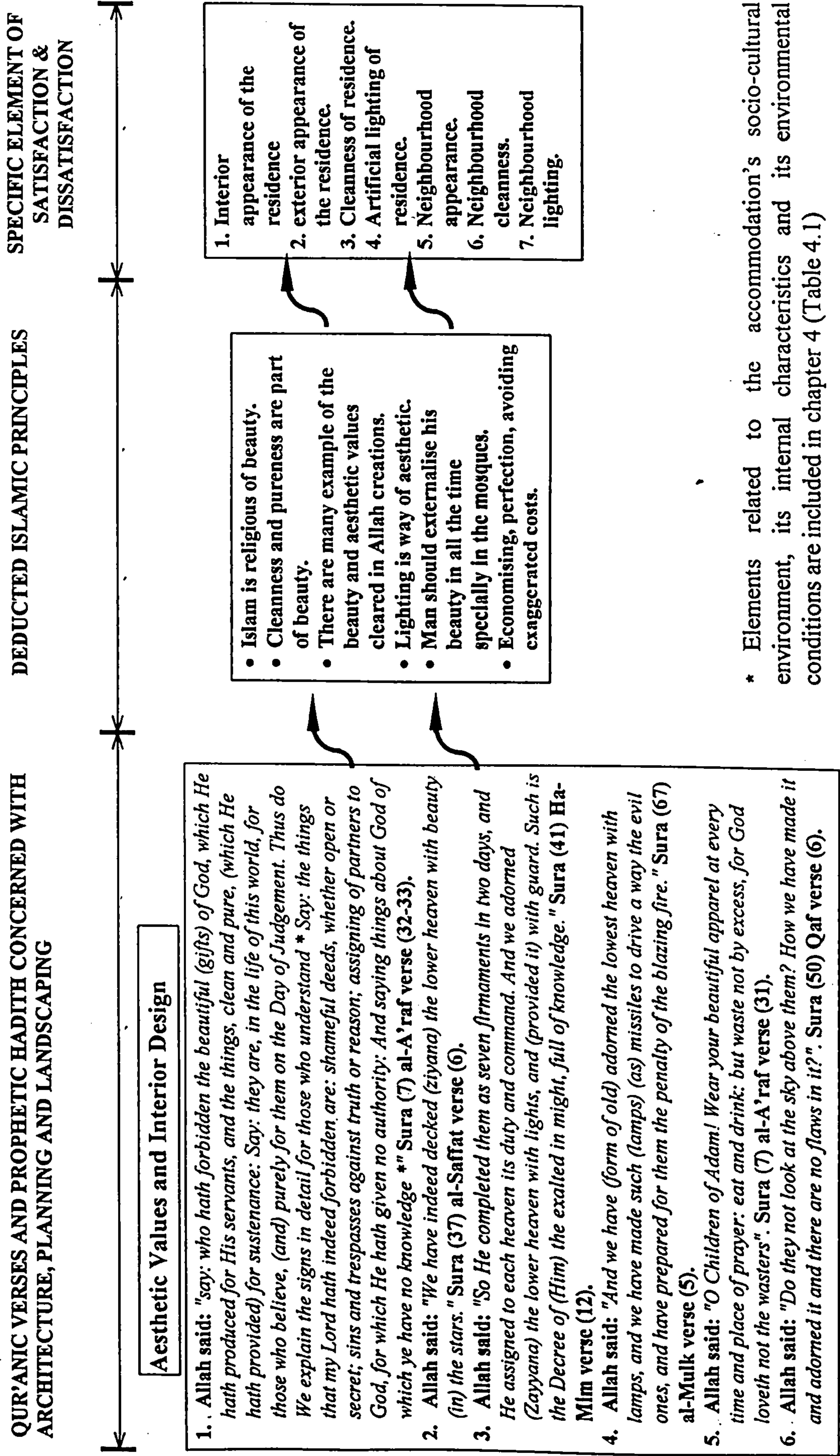


Table A.5: Aesthetic Values and Interior Design
(continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Aesthetic Values and Interior Design:.. (continued)</div> <div>7. Allah said: "And the earth We have spread out (like a carpet); set thereon mountains firm and immovable; and produced therein all kinds of things in due balance". Sura (15) al-Higr verse (19).</div> <div>8. Allah said: "Seest thou not that God Sends own rain from the sky? With it we then bring out produce of various colours. And in the mountains are tracts whit and red, of various shades of colour, and black intense in hue. And so amongst men and crawling creatures and cattle, are they of various colours. Those truly fear God, among His servants, who have Knowledge: For God is Exalted in Might, Oft-forgiving." Sura (35) Fatir verse (27-28).</div> <div>9. Prophet (pbuh) said: "God loves if someone of you dose a work, to perfect it"</div> <div>10. Allah said: "Truly God loves those who fight in cause in battle array, as if they were solid cemented structure". Sura Saff or Barrie array verse (4).</div> <div>11. Abu Mlelh quoted his father as quoting the prophet (pbuh) as saying "The prophet has banned using lion skin. "Turmizi also quoted the hadith saying " Lion skins shouldn't be used as furniture."</div> <div>12. Huthifa quoted the prophet (pbuh) as saying "You shouldn't sit on or use as clothing the silk or velvet, they are for unbelievers in the present life, for Moslems in the afterlife".</div> <div>13. Moslim quoted the prophet (pbuh) as saying "Lord is beautiful, likes beauty tasting."</div> <div>14. Allah said: "Oye, who believe! Intoxicants and gambling, (dedication of) stones, and (divination by) arrows, are an abomination), that ye may prosper." Sura (5) Al-Maida verse (90).</div>	<div>• Colouring and shading are a given products from Allah for balancing and aesthetic values.</div> <div>• Balancing is a characteristic of beauty.</div> <div>• Solidity in structure elements is characteristic of beauty.</div> <div>• Using lion skin for decoration is banned.</div> <div>• Using silk or velvet for clothing of men and for sitting fabric are banned.</div>	<div>1. Interior appearance of the residence</div> <div>2. exterior appearance of the residence.</div> <div>3. Cleanness of residence.</div> <div>4. Artificial lighting of residence.</div> <div>5. Neighbourhood appearance.</div> <div>6. Neighbourhood cleanness.</div> <div>7. Neighbourhood lighting.</div> <div>8. Residence cost.</div> <div>9. Building structure.</div> <div>10. Furniture.</div>

Table A.5: Aesthetic Value and Interior Design (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Aesthetic Values and Interior Design:.. (continued)</div> <div>15. Ibn Umar (may God be pleased with him) related that the Prophet (pbuh) said: "Thos who make paintings will be tortured on the Day of Judgement and will be asked to bestow life in what they painted". 16. A'isha (may God be pleased with her) said; "the prophet (pbuh) once returned from a journey and I had a window covered with a curtain decorated with figures. When the prophet (pbuh) saw the curtain his face changed and he said: "Oh 'A'isha the most tortured people on the Day of judgement, will be those who imitate the creations of God', she added: "so we tore it apart and made it into a pillow or two". 17. Ibn Abbas (may God be pleased with him) related that he heard the Prophet (pbuh) said: "Every painter, in hell, is provided with a soul for each painting he painted to torture him in hell." Ibn Abbas added: "if you have to paint, then paint trees or any objects that have no life". 18. Ibn Abbas (may God be pleased with him) related that he heard the Prophet (pbuh) said:" he who paints a figure will be tortured by God -in hell - until he bestows life in it, and he would never be able to so so." 19.. Bukhari, Muslim and Ahmad quoted Abu Zarraah as saying " I and Abu Hurira went in the house of Marwan Bin Al Hakam. Abu Hurira saw statues and pictures being done. Abu Hurira said "I heard the prophet (pbuh) saying "who is more unfair and in just who imitates my creatures, let them create a nucleus, or grain, or a small strand," 20. Huzifa quoted the prophet (pbuh) as saying "Don't drink or eat in gold or silver pots, the y are for the unbelievers in the present life and for you in the afterlife." 21. Prophet (pbuh) said: "Angels don't enter the house in which there are statues or pictures" according to Abu Hurira (warranted by Muslim)</div>	<div><ul style="list-style-type: none">• Islam doesn't forbid painting, however it prohibits making statues for worship.• It is better not to do or use painting or pictures of the livcable thing.• If the designer would like to use painting or pictures it is preferable to use Qur'anic verse or geometrical elements or landscaping element such as trees.• Gold, silver pots, utensils banned in dinning rooms.</div>	<div><ol style="list-style-type: none">1. Interior appearance of the residence2. exterior appearance of the residence.3. Neighbourhood appearance.4. Furniture.5. Dinning room.6. Kitchen size.7. In-home equipment.</div>

Table A.6: Lighting

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
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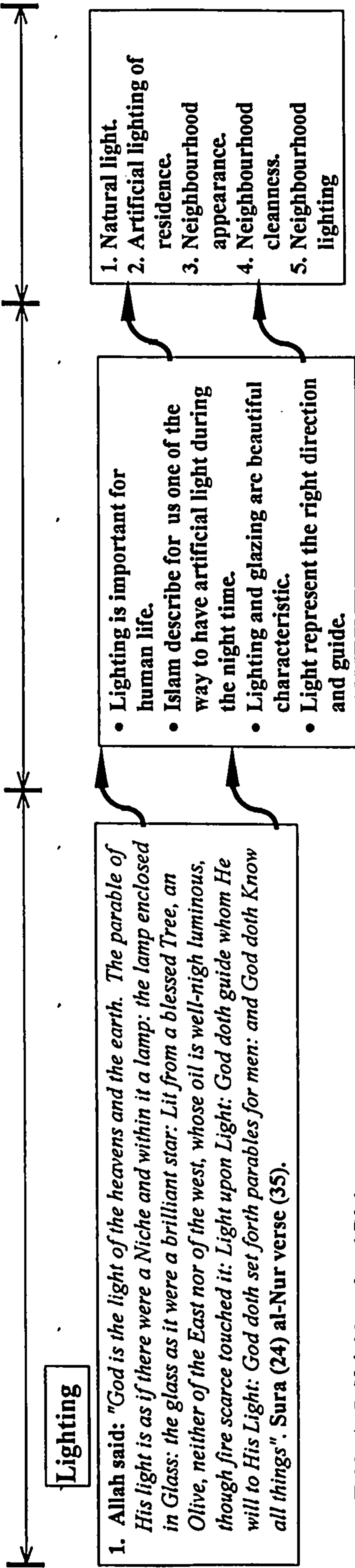


Table A. 7: Neighbourhood Rights

Neighbourhood Rights

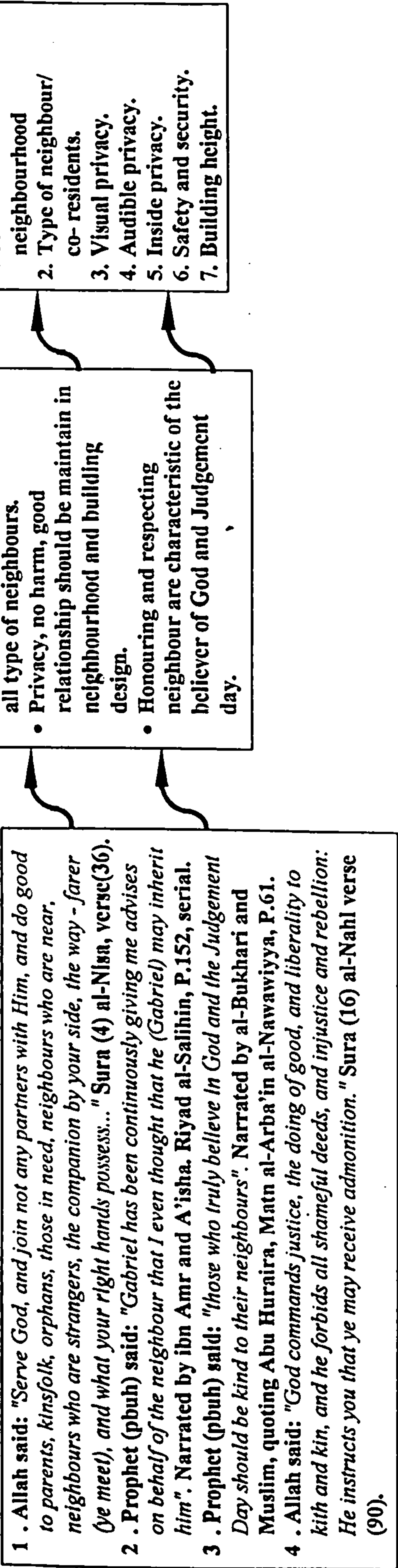


Table A.7: Neighbourhood Rights (continued)

OUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Neighbourhood Rights (continued)</div> <div><p>5. Prophet (pbuh) said: "He who avoids his neighbour for fear for his family or wealth, is not a believer; nor a believer is he who his neighbour cannot feel safe around him. Do you realise what are the neighbour rights? If he seeks your help you'll grant him so; if he borrow your money, you may so; if he becomes poor, you'll see how you can help; if he falls sick, you'll pay him a visit; you'll share his gook and bad times; you will not rise high your building so as not to block fresh air from him unless you're permitted to do so; you'll share your food with him especially those with strong aromas; and you will not go around with your fruits unless you'll share it with him". Narrated by al-Khara'eti, Makarim al-Akhlaq, Transmitted on solid basis, al-Targhib wa al-Tarhib, Part Three, P. 236.</p><p>6. Allah said: "And hold fast, altogether, by the rope which God (stretches out for you), and be not divided among your selves..." Sura (3) Al-Imran, verse (103).</p><p>7. Allah said: "O man kind! We created you from a single (pair) of a male and a female, and made you into nations and tribes, that ye may know each other (Not that ye may despise each other). Verily the most honoured of you in the sight of God is (he who is) the most righteous of you. And God has full knowledge and is well acquainted with all things)" Sura (49) al-Hugurat, verse (13).</p><p>8. Allah said: "And when you ask (his ladies) for anything you want, ask them from before a screen: that makes for greater purity for hearts and for their...." Sura Slizab or the verse (53).</p><p>9. Prophet (pbuh) said: "He who believes in Allah and the Doomsday should not be meeting a woman separately without a first degree kin, otherwise the devil will be the third person attending.</p></div>	<div><ul style="list-style-type: none">• Islam emphasis number of neighbour rights.• Rising the building higher than neighbour not preferable for it's causing on lack of healthy environment of fresh air and natural light.• Man should not meeting a woman separately without a first degree kin.• Screen is used for the necessity of talking with stranger man or woman.</div>	<div><ol style="list-style-type: none">1. Social character of neighbourhood2. Type of neighbour/co- residents.3. Visual privacy.4. Audible privacy.5. Inside privacy.6. Safety and security.7. Building height.8. Building structure.9. Building cost.</div>

Table A.7: Neighbourhood Rights (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Neighbourhood Rights (continued)</div> <div><p>10. Prophet (pbuh) said: "Believers, when kind, compassionate and affectionate to each other, resemble the body: when one part of the body suffers illness, the rest of the body shows compassion by expressing pain and fever". Agreed upon, Riyad al-Salihin, P. 120, serial 222.</p><p>11. Prophet (pbuh) said: "Believers, when co-operate with each other, resemble a consolidated building in full strength". Agreed upon, Riyad al-Salihin, P. 119, serial 220.</p><p>12. Prophet (pbuh) said: "Believers should be as agglutinated bricks, consolidating each other..."</p><p>13. Prophet (pbuh) said: "Muslims are equal and resemble the tooth of a comb".</p><p>14. Allah said: "Thy Lord hath decreed that ye worship non but Him, and that ye be kind to parents. Weather one or both of them attain old age in thy life, say not to them a word of contempt, nor repel them, but address them in terms of honour." Sura (17) al-Isra, verse (23).</p><p>15. Allah said: "Wealth and sons are allurements of the life of this world.." Sura (24) al-Nur, verse (30).</p><p>16. Prophet (pbuh) said: "He whom his neighbours don't feel secure and safe from his side, will never enter Heaven". Narrated by Tabarani on the behalf of Ka'ab ibn Malik and warranted by Muslim.</p><p>17..Prophet (pbuh) said: "there should be neither harming nor reciprocating harm"</p><p>18. Gabir said that the Prophet (pbuh) forbids men from sleeping on roofs that are not protected by high parapets" Narrated by al- Turmudhi.</p></div>	<div><ul style="list-style-type: none">• Emphasis of compassion, mercy and affection among members of the society.• Emphasis for society member co-operation.• The good building is the one which consolidated in full strength..• Islam respect rights of the Muslims and other people.• Lowering the gaze among men and women.• Type of dwelling must be comfortable to Islamic spirit as Islam religious of monotheism and unity.• Islam is religious of Equalisation and Moderation</div>	<div><ol style="list-style-type: none">1. Social character of neighbourhood2. Type of neighbour/co- residents.3. Visual privacy.4. Audible privacy.5. Inside privacy.6. Safety and security.7. Building height.8. Building structure.9. Building cost.</div>

Table A.7: Neighbourhood Rights (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
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Neighbourhood Rights (continued)

<p>19. Allah said: "They ask you (O Muhammad) what they should spend. Say: Whatever you spend of good must be for parents and kindred and orphans and Al-Masakin (the poor) and the wayfarers, and whatever you do of good deeds, truly, Allah knows it well. Sura (2) al-Baqarah verse(215).</p> <p>20. Allah said: "O you who believe. Spend of that with which We have provided for you, before a Day comes when there will be no bargaining, nor friendship, nor intercession. And it is the disbelievers who are the Zalimun (wrong-doers, etc.). Sura (2) al-Baqarah verse(254).</p> <p>21. Allah said: "Worship Allah and join none with Him in worship, and do good to parents, kinsfolk, orphans, Al-Masakin (the poor), the neighbour who is near of kin, the neighbour who is stranger, the companion by your side, the wayfarer (you meet), and those (slaves) whom your right hands possess. Verily, Allah does not like such as are proud and boastful; Sura (4) an-Nisa verse (36).</p> <p>22. Allah said: "Verily, Allah enjoins Al-A dl (i.e. justice and worshipping none but Allah Alone -Islamic Monotheism) and Al-Ihsdn [i.e. to be patient in performing your duties to Allah, totally for Allah's sake and in accordance with the Sunnah (legal ways) of the Prophet in a perfect manner], and giving (help) to kith and kin (i.e. all that Allah has ordered you to give them e.g., wealth, visiting, looking after them, or any other kind of help, etc.): and forbids Al-Fahsha (i.e. all evil deeds, e.g. illegal sexual acts, disobedience of parents, polytheism, to tell lies, to give false witness, to kill a life without right, etc.), and Al-Munkar (i.e. all that is prohibited by Islamic law; polytheism of every kind, disbelief and every kind of evil deeds, etc.), and Al-Baghy (i.e. all kinds of oppression). He admonishes you, that you may take heed. Sura (16) an-Nahl verse (90).</p>
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- Islam determine those whom should receive whatever we spend of good.
- unity and strengthens of the relationship between the community members could be maintained through spending out in the charity.
- Islam ordered us to do good for the neighbour who is near of kin, the neighbour who is a stranger, and the companion by our side.
- Allah has ordered us to give help to our kith and kin.

1. Social character of neighbourhood
2. Type of neighbour/co- residents.
3. Visual privacy.
4. Audible privacy.
5. Inside privacy.
6. Safety and security.
7. Building height.
8. Building structure.
9. Building cost.

Table A.7: Neighbourhood Rights (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Neighbourhood Rights (continued)</div>	<div>23. Narrated Abu Musa Some people asked Allah's Messenger (pbuh) "Whose Islam is the best? (i.e. Who is a very good Muslim?)" He replied, "One who avoids harming the Muslims with his tongue and hands." (Sahih Al-Bukhari, Hadith No. 10, Vol.1)</div> <div>24. Narrated Abu Huraira Allah's Messenger (pbuh) said, "Whosoever believes in Allah and the Last Day should not harm his neighbour, and whosoever believes in Allah and the Last Day should entertain his guest generously and whosoever believes in Allah and the Last Day should talk what is good or keep quiet (i.e. abstain from all kinds of evil and dirty talk e.g. abusing, lying, backbiting etc.)." (Sahih Al-Bukhari, Hadith No. 47, Vol.8)</div> <div>25. Narrated Abu Huraira that he heard Allah's Messenger (pbuh) saying "If someone is peeping (looking secretly) into your house without your permission, and you throw a stone at him and destroy his eyes, there will be no sin on you. Sahih Al-Bukhari, Hadith No.26, Vol. 9)</div> <div>26. Narrated Abu Huraira I heard Allah's Messenger (pbuh) saying, "The rights of a Muslim on Muslim are five: (1) To return the greetings, (2) to visit the sick, (3) I follow the funeral processions (4) accept invitation and (5) to reply the sneezer [saying, Yarhamu-ka-Allah~ (may Allah be merciful to you provided the sneezer says, Al-hamd lillah (all the praises are for Allah (Sahih Al-Bukhari, Hadit No. 332 Vol.2)</div> <div>27. Narrated 'Abdullah : The Prophet (pbuh) said, "When you are three persons; sitting together, then no two of you should hold secret counsel excluding the third person until you are with some other people too, for that would grieve him." (Sahih Al- Bukhari Hadith No.305. Vol.8)</div>	<div><ul style="list-style-type: none">• Avoiding doing harm to other Muslims with both the tongue and hands.• All type of harm to the neighbour is forbidding.• We should entertain our guest.• Peeping and looking secretly to others houses is forbidding.• you have the right to stop any one breaking the privacy of your hose.• Islam clarify all the right of the community members to each others.• following the Islamic principle enhance the social activities of the community.• secret counsel against the third only attending person is forbidding.</div> <div><ul style="list-style-type: none">1. Social character of neighbourhood2. Type of neighbour/co- residents.3. Visual privacy.4. Audible privacy.5. Inside privacy.6. Safety and security.7. Building height.8. Building structure.9. Building cost.</div>

Table A.7: Neighbourhood Rights (continued)

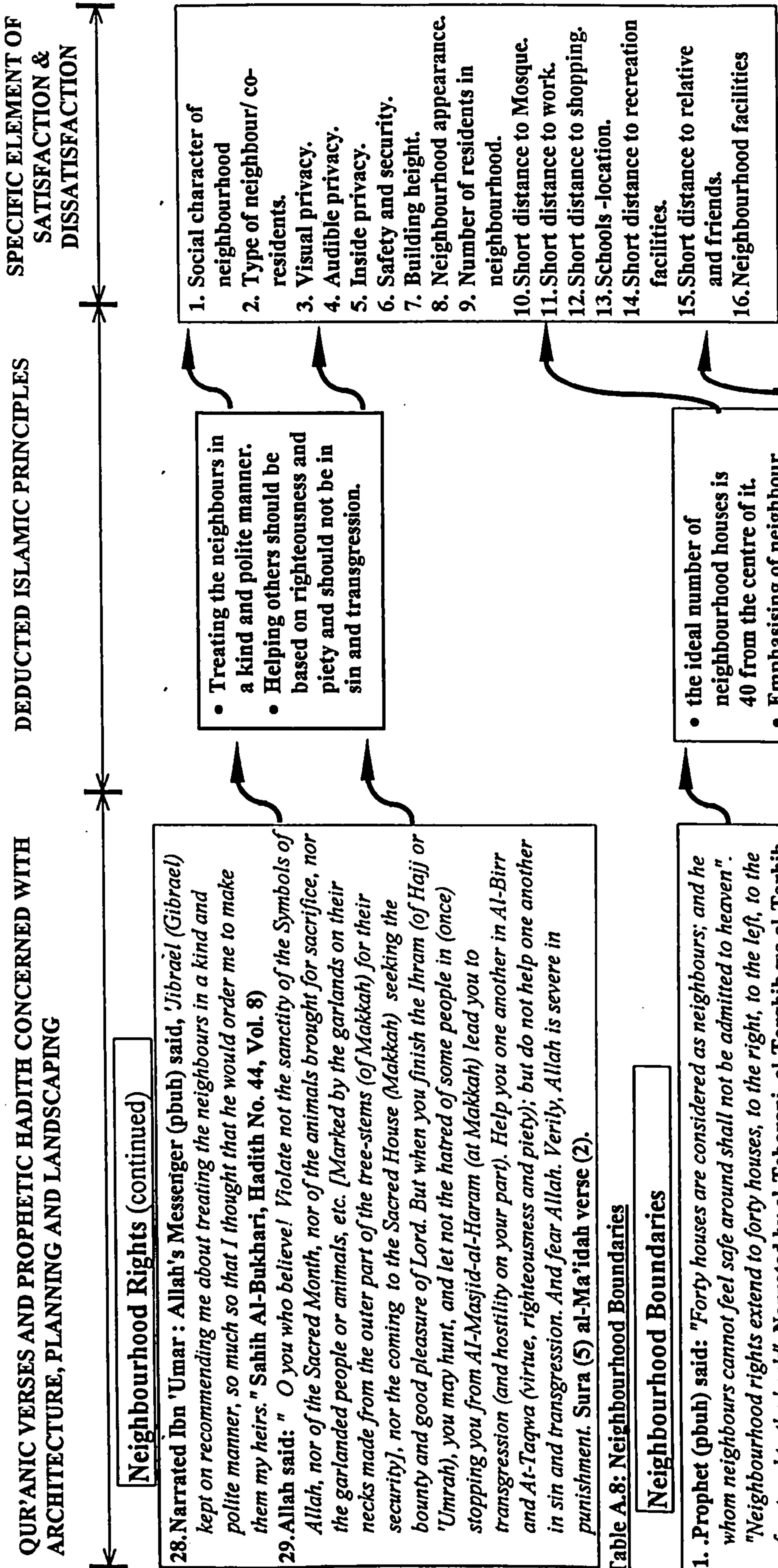


Table A.8: Neighbourhood Boundaries

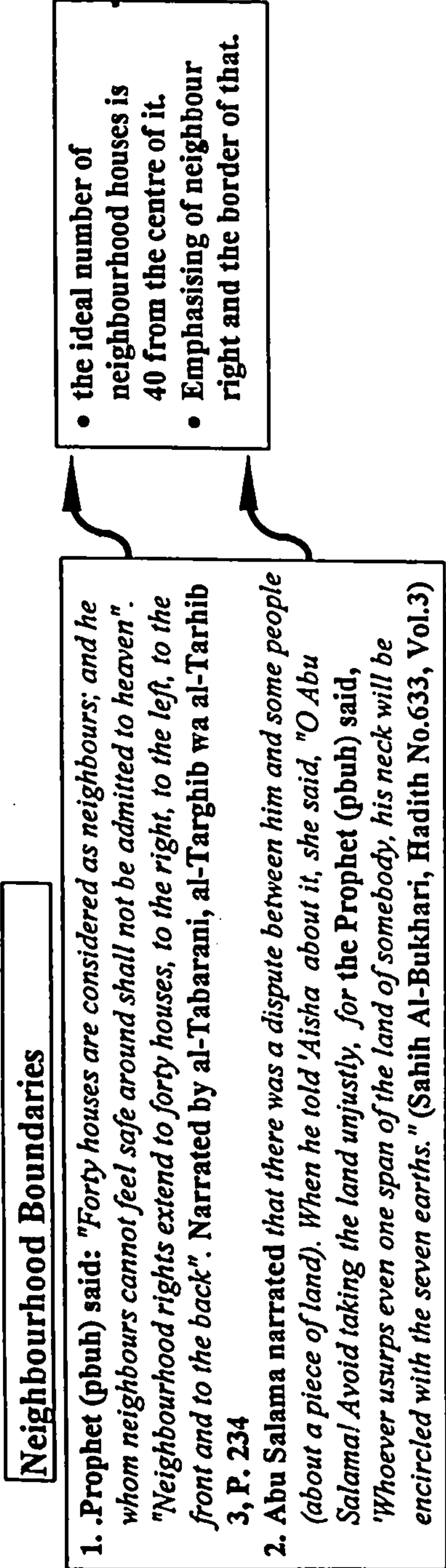


Table A.9: Mosques and Mosques elements

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Mosques and Mosques elements</div> <div><ol style="list-style-type: none">1. Allah said: "And the places of worship are for God (alone): so invoke not any one along with God." Sura (72) al-Ginn verse (18).2. Allah said: "Which then is best? - he that layeth his foundation on piety to God and his Good pleasure? - or he that layeth his foundation on an undermined sand-cliff ready to crumble to pieces? And it doth crumble to pieces with him, into the fire of Hell. And God guideth not people that do wrong." Sura (9) al-Tauba verse (109).3. Allah said: "We see the turning of thy face (for guidance) to the heavens: now shall we turn thee to a Qibla that shall please thee. Turn then thy face in the direction of the sacred Mosque: wherever ye are, turn your faces in that direction. The people of the Book know well-that that is the truth from their Lord. Nor is God unmindful of what they do." Sura (2) al-Baqara, Verse 1444. Allah said: " And they say: "If we follow the guidance with you, we would be snatched away from our land." Have We not established for them a secure sanctuary (Makkah), to which are brought fruits of all kinds, a Provision from Ourselves, but most of them know not . Sura (28) al-Qasas verse (57)5. Allah said: "Those who remain constant in their Salat (prayers); Sura (70) al-Ma'arij verse (23).6. Narrated Ubaidullah Al-Khauilani: I heard 'Uthman bin Affin saying, when people argued too much about his intention to reconstruct the mosque of Allah's Messenger "You have talked too much. I heard the Prophet saying "Whoever built a mosque, with the intention of seeking Allah's Pleasure, Allah will build for him a similar place in Paradise." (Sahih Al-Bukhari; Hadith No. 441, Vol)7. Narrated Abu Musa : The Prophet (pbuh) said, "The people who get tremendous reward for As--salat (the prayer) are those who are farthest away (from the mosque), and then those who are next farthest and so Similarly one who waits to offer salat with the Imam has greater reward than one who offers Salat and goes to bed." (Sahi'h Al-Bukhari, Hadi'th No. 623, Vol.1)</div>	<ul style="list-style-type: none">• Activities on Mosques should not exceed the main purpose of it in worshipping Allah.• Mosques as well as other building should be structurally stabled.• Market should not be built in the cost of loosing areas for mosques.• Remaining constant in our prayers.• Islam encourage us to build mosques with the intention of seeking Allah's pleasure.• Reward for prayer increase as the distance to the mosque increases.	<div>1. Short distance to Mosque.</div> <div>2. Mosque size.</div> <div>3. Mosque activities.</div> <div>4. Mosque structure.</div> <div>5. Furniture.</div>

Table A.9: Mosques and Mosques elements (continued)

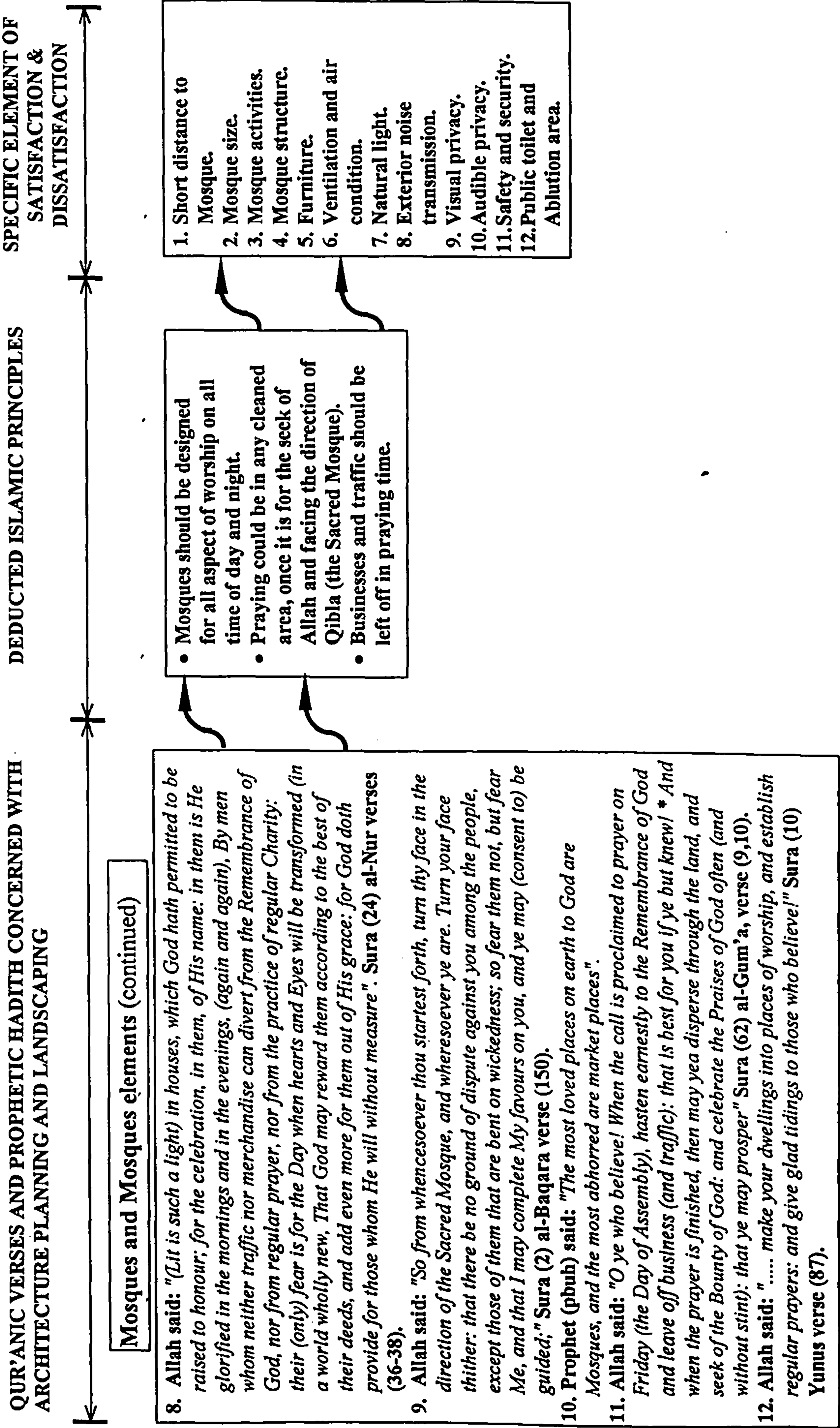


Table A.9: Mosques and Mosques elements (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Mosques and Mosques elements (continued)</div> <div>13. Allah said: "the mosques of God shall be visited and maintained by such as believe in God and the Last Day, establish regular prayers, and practise regular charity, and fear none (at all) except God. It is they who are expected to be on true guidance." Sura (9) al-Tauba verse (18).</div> <div>14. Allah said: "Never stand thou forth therein. There is a mosque whose foundation was laid from the first day on piety; it is more worthy of thy standing forth (for prayer) there -in . In it are men who love to be purified; and God loveth those who make themselves pure". Sura (9) al-Tauba verse (108).</div> <div>15..Prophet (pbuh) said: " He who cleans up at home and then goes on his way to one of God's houses to fulfil one of God's commands, every step he steps erases a sin and the other lifts him a rank. " Narrated by Muslim.</div> <div>16. Prophet (pbuh) said: "announce to walkers to mosques in darkness, that they will enjoy the light of the day of resurrection. " Transmitted by Abi Buraida</div> <div>17. Prophet (pbuh) said: "Who ever builds a mosque for mentioning God's name, Allah will designate him a house in heaven" by Umar ibn al-Khattab affirmed by ibn Maga.</div> <div>18. Prophet (pbuh) said: "Group and Public prayer is 27 times better than individual prayer" Transmitted by Umar ibn al-Khattab.</div> <div>19. Prophet (pbuh) said: "the frequentation of men to mosques, is an evidence of his devotion. " Transmitted by Abi Sa'id al-khudari.</div> <div>20. Prophet (pbuh) said: "the best praying rows for men are the first ones and the worst are the last, and the best praying rows for women are the last ones and the worst are the first. " Narrated by Muslim.</div> <div>21. Ibn Abbas reported that the Prophet (pbuh) prayed on the rug. Related by Ahmad and Ibn Majah.</div>	<div>• Ablution for praying preferable to be on home.</div> <div>• Building mosques should be for only the seek of Allah.</div> <div>• Walking to the mosques is preferable to get more reward.</div> <div>• every step to the mosque erases a sin and the other lifts a rank.</div> <div>• Public prayer better than individual prayer.</div> <div>• It is preferable for the men to pray in the first raws and for the women in the last raws.</div> <div>• Mosque could be furniture by rug.</div>	<div>1. Short distance to Mosque.</div> <div>2. Number of mosques.</div> <div>3. Mosque size.</div> <div>4. Mosque activities.</div> <div>5. Visual privacy.</div> <div>6. Audible privacy.</div> <div>7. Safety and security.</div> <div>8. Public toilet and Ablution area.</div> <div>9. Mosque structure.</div> <div>10. Mosque cost.</div> <div>11. Furniture.</div>

Table A.2: Mosques and Mosques elements (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<p>Mosques and Mosques elements (continued)</p> <p>22. Abu Hurira quoted the Prophet (pbuh) as saying: "If people knew what is in the call for prayer and in the foremost lines of blessing and grace, and found it necessary to cast lost with one another, they would do so". Narrated by Al- Bukhary and Muslim .</p> <p>23. Al-Hassan transmitted that " when the Messenger of Allah (pbuh) ordered his mosque to be built said: " build it just like the trellis of Moses (pbuh) - Al-Hassan was asked what the trellis of Moses was, and answered (if he raises his hand, he touches the ceiling).</p> <p>24. Asi Mughira Ibn Shu'ba said: the Prophet (pbuh) was praying on mat and tanned hide.</p> <p>25. Allah said: "Right graciously did her Lord accept her: He made her grow in purity and beauty: to the care of Zakariya was she assigned. Every time that he found her supplied with sustenance..." Sura (3) al-Imran verses 37</p> <p>26. Allah said: "While he was standings in prayer in the chamber (mihrab), the angels called unto him: "God doth give thee glad tidings of Yahya, witnessing the truth of a word from God, and (be besides) noble, chaste, and a prophet, of the goodly company of the righteous." Sura (3) al-Imran verses (39)</p> <p>27. Allah said: "So Zakariya came out to his people from his chamber (mihrab): he told them by signs to celebrate God's praises in the morning and in the evening." Sura (19) Maryam verse (11).</p> <p>28. Allah said: "Has the story of the Disputants reached thee? Behold, they climbed over the wall of the private chamber (mihrab).Sura 38 Sad verse 21</p> <p>29. Allah said: "they worked for him as he desired, making arches (mihrahs, images, basons as large as Reservoirs, and cooking Cauldrons fixed (in their places):" Work ye' sons of David, with thanks! But few of My servants are grateful." Sura (34) Saba' verse (13).</p>	<ul style="list-style-type: none"> • Answering the call for praying as soon as we hear it. • Height of the mosque ceiling should be with according to human scale. • Mosque could be furniture with mat and tanned hide. • Chamber is one of the Mosque elements. 	<ol style="list-style-type: none"> 1. Short distance to Mosque. 2. Number of mosques. 3. Mosque size. 4. Mosque activities. 5. Visual privacy. 6. Audible privacy. 7. Safety and security. 8. Public toilet and Ablution area. 9. Mosque structure. 10. Mosque cost. 11. Furniture.

Table A.9: Mosques and Mosques elements (continued)

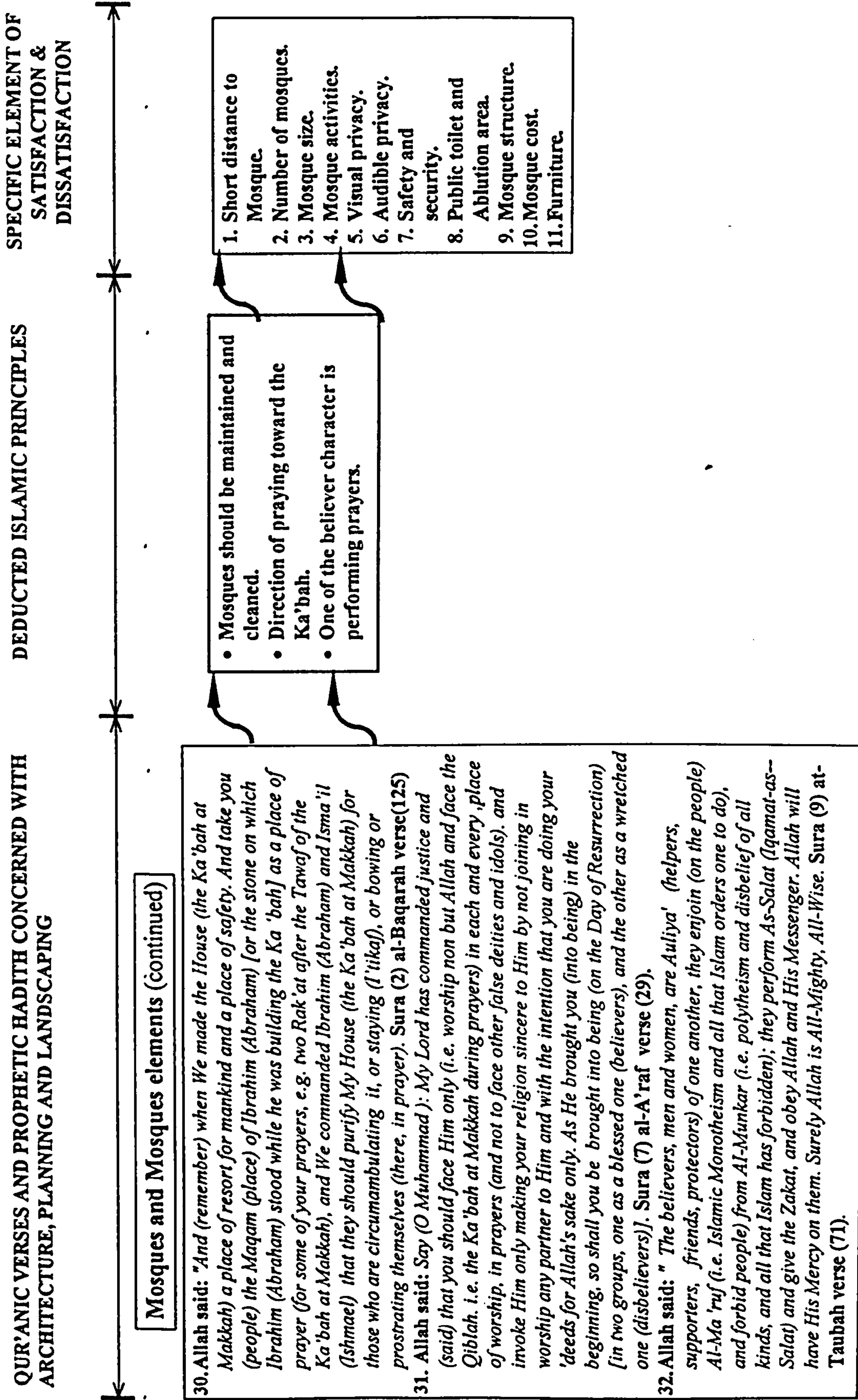


Table A.10: Drinking and ablution

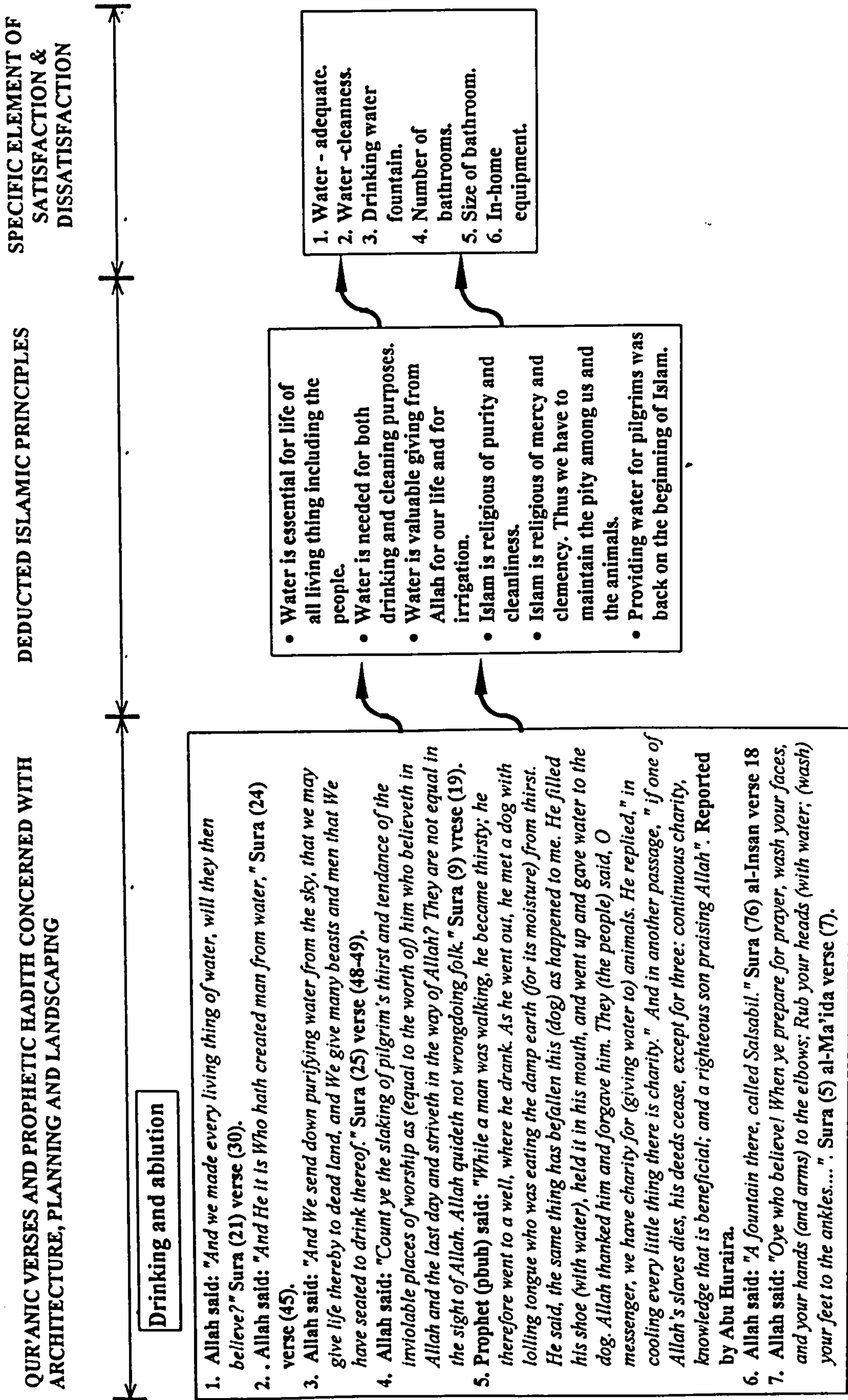


Table A.10: Drinking and ablution (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Drinking and ablution (continued)</div> <div>8. Allah said: "O ye who believe! Approach not prayers with a mind befogged, until ye can understand all that ye say, nor in a state of ceremonial impurity (except when travelling on the road), until after washing your whole body. If ye are ill, or on a journey, or one of you cometh from offices of nature, or ye have been in contact with women, and ye find no water, then take for yourselves clean sand, or earth, and rub therewith your faces and hands. For God doth blot out sins and forgive again and again" Sura 4 al-Nisa, verse 43</div> <div>9. Allah said: "For God loves those who turn to Him constantly, and He loves those who keep themselves pure and clean Sura (2) al-Baqara verse (222)</div> <div>10. Prophet (pbuh) said: "He who cleans up at home and then goes on his way to one of God's houses to fulfil one of God's commands, every step he steps erases a sin and the other lifts him a rank." Narrated by Muslim.</div> <div>11. Prophet (pbuh) said: "Place the ablutaries at the entrances." (Outside the mosque). Narrated by ibn Mayah.</div> <div>12. Prophet (pbuh) said: "If ye were washed for your this day" Narrated by Muslim.</div> <div>13. It is mentioned in sound hadiths that Prophet (pbuh) was performing ablution of a (Mud) a quantity of water of both full hands and washes by a (Sa') a quantity fur times of a (Mud).</div> <div>14. Ibn Omar reported that Prophet (pbuh) passed by Sa'ad when he was performing ablution and said: "what is this waste Sa'ad?" He replied: is there any waste in water? "He said: yes even if your were sitting by a flowing river". Mentioned by Imam Ahmad and Ibn Majah.</div> <div>15. Narrated Abu Huraira The Prophet (pbuh) said, "Allah Does not accept Salat (prayer) of anyone of you if he does (small) Hadath (passes wind etc.) till he performs the ablution (anew)." (Sahih Al-Bukhari, Hadith No.86, Vol.9)</div>	<div>• Islam clarify how to use water for ablution, and in case of sorting of water sand could be used instead.</div> <div>• It is preferable to place ablution areas outside the mosques.</div> <div>• Cleanliness is part of the Muslim's faith.</div> <div>• Islam clarify how the quantity of water needed for ablution.</div> <div>• Wasting water in ablution is banned.</div> <div>• It is preferable to place ablution areas outside the mosques.</div> <div>• Defecate in road'or shaded area is forbidding in Islam.</div>	<div>1. Water - adequate.</div> <div>2. Water -cleanness.</div> <div>3. Drinking water fountain.</div> <div>4. Number of bathrooms.</div> <div>5. Size of bathroom.</div> <div>6. In-home equipment.</div> <div>7. Public toilet and ablution.</div> <div>8. Sewage system - convenient.</div> <div>9. Water system -</div>

Table A.10: Drinking and ablution (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Drinking and ablution (continued)</div> <div>16. Narrated Abu Ayyub Al -Ansari: the Prophet said, "While defecating, neither face nor turn your back to the Qiblah, but face either east or west." Abu ayyub added, "when we arrived in Sham we came across some lavatories facing the Qiblah; therefore we turned ourselves while using them and asked for Allah's forgiveness." (Sahih Al-Bukhari, Hadith No.388, Vol.1)</div> <div>17. Prophet (pbuh) said: "Beware the two damned". They asked "what are the two damned, he said: "He who uses the middle of the road for toileting or in the shade". Narrated by Muslim, Riyad al-Salihin, P. 667, serial 1769.</div> <div>18. Allah said: "Verily! In the creation of the heavens and the earth, and in the alternation of night and day, and the ships which sail through the sea with that which is of use to mankind, and the water (rain) which Allah sends down from the sky and makes the earth alive therewith after its death, and the moving (living) creatures of ~ kinds that He has scattered therein, and in the veering of winds and clouds which are held between the sky and the earth, are indeed Ayat (proofs, evidences, signs, etc.) for people of understanding.</div> <div>Sura (2) al-Baqarah verse(164)</div> <div>19. Allah said: "It is He Who sends down water (rain) from the sky, and with it We bring forth vegetation of all kinds, and out of it We bring forth green stalks, from which We bring forth thick clusters of grain. And out of the date-palm and its spathe come forth clusters of dates hanging low and near, and gardens of grapes, olives and pomegranates, each similar (in kind) yet different (in variety and taste). Look at their fruits when they begin to bear, and the ripeness thereof. Verily! In these things there are signs for people who believe. Sura (6) al-An'am verse (99).</div> <div>20. Allah said: "And your garments purify! Sura (74) al-Muddaththir verse (4)</div> <div>21. Prophet (pbuh) said: " Cleanliness is part of the Muslim's faith".</div>	<div>• Location of water closets in the house, as in mosques, should not be oriented towards the Qiblah. Also it is good to separate ablution areas from water closets.</div> <div>• Doing toilette in the road or the shade is forbidding.</div> <div>• water is essential for life circle.</div> <div>• prayer would not be accepted if ablution was not performed.</div> <div>• Cleanliness is part of the Muslim's faith.</div>	<div>1. Water - adequate.</div> <div>2. Water -cleanness.</div> <div>3. Drinking water fountain.</div> <div>4. Number of bathrooms.</div> <div>5. Size of bathroom.</div> <div>6. In-home equipment.</div> <div>7. Public toilet and ablution.</div> <div>8. Sewage system - convenient.</div> <div>9. Water system - convenient.</div>

Table A.11: Market places

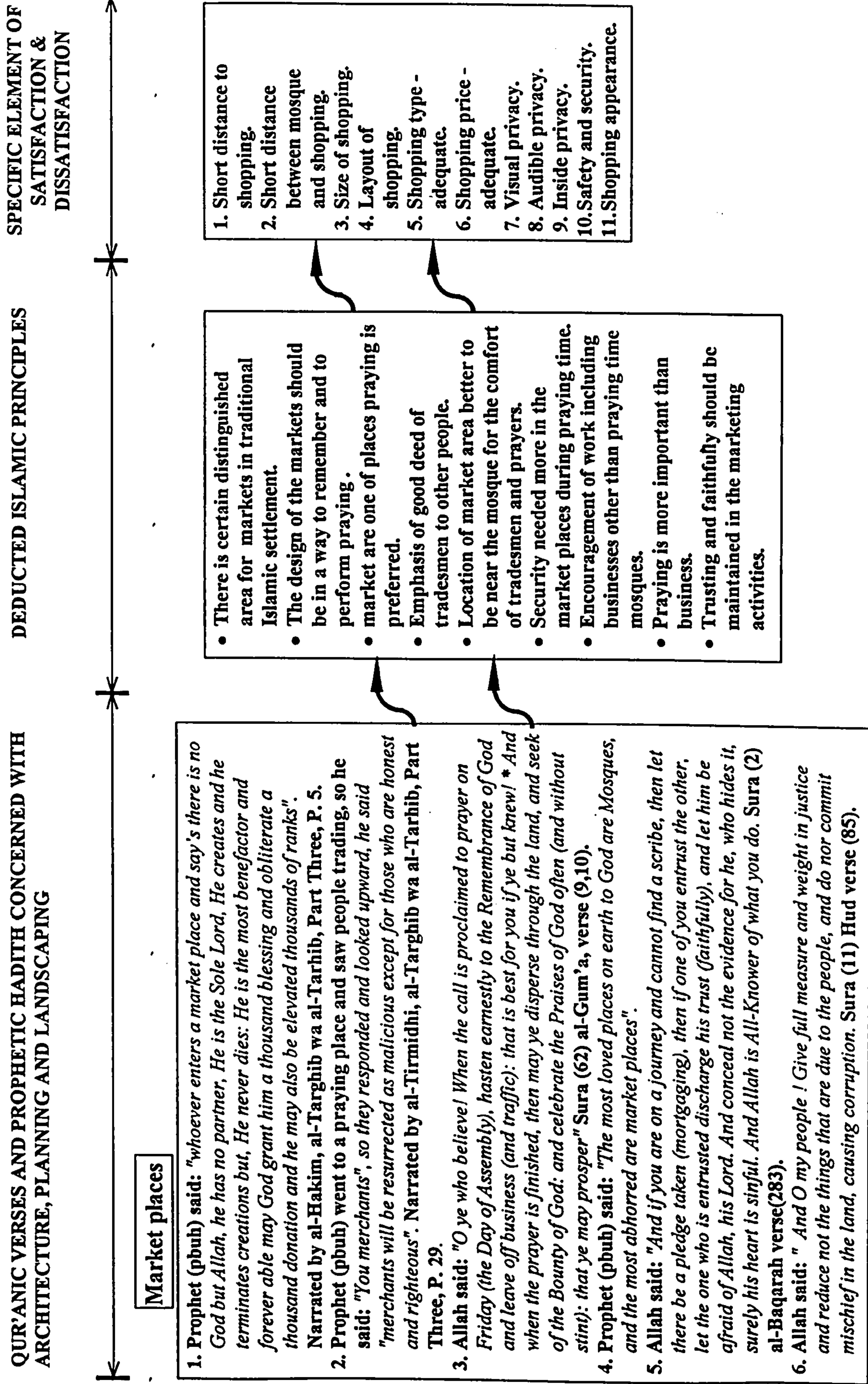


Table A.11: Market places (continued)

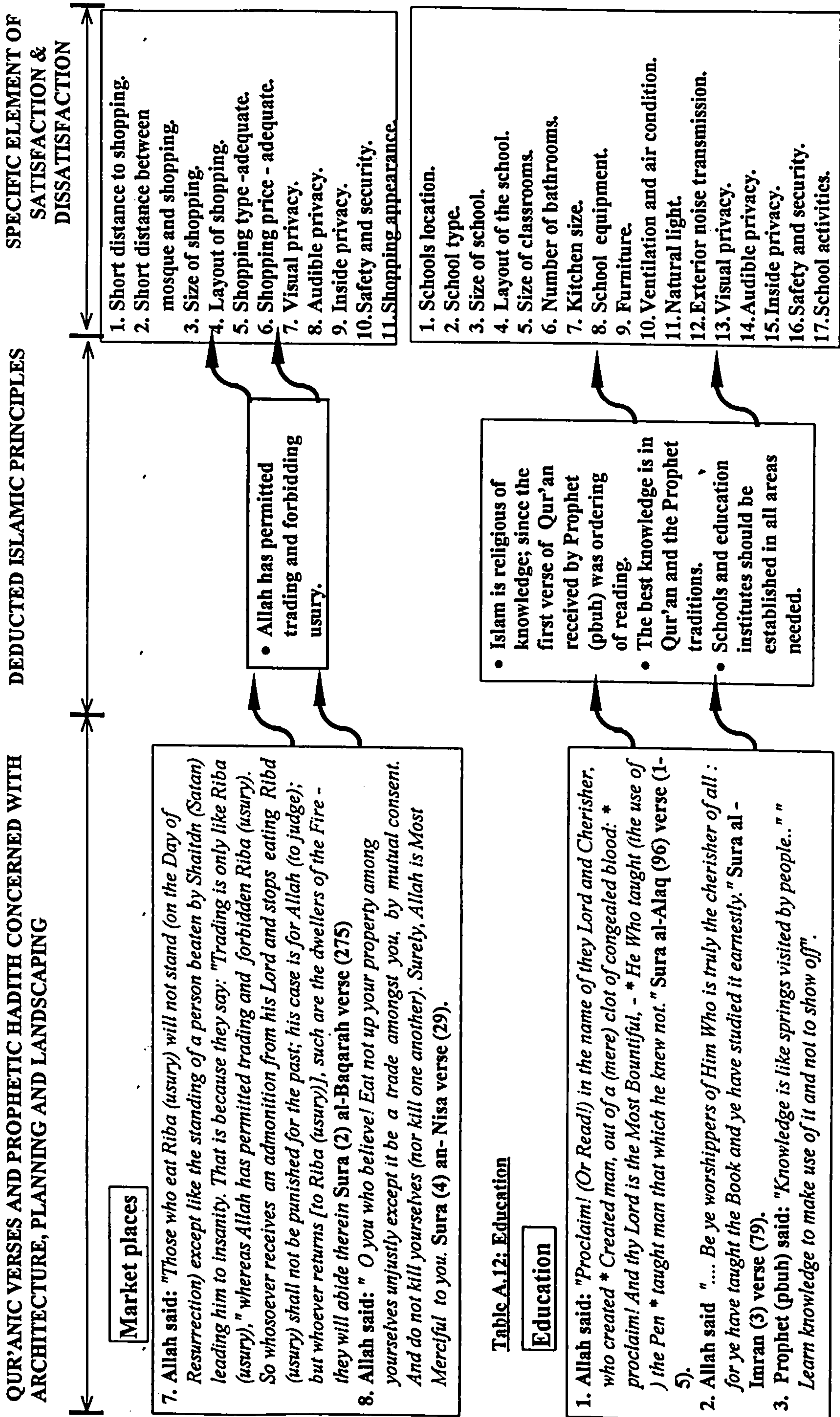


Table A.13: Roads and spaces

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Roads and spaces</div> <div><div>1. Allah said: "We have honoured the sons of Adam; provided them with transport on land and sea; given them for sustenance things good and pure; and conferred on them special favours, above a great part of our creation" Sura Al-isra verse (70).</div><div>2. Prophet (pbuh) said: "you are not allowed to sit on the rods", they said: "but we need to sit around the roads to discuss our affairs". The Prophet said: "if you have to, then you should respect the rights of the road". They asked about that, the Prophet answered: "To lower your gaze, not to harm others, to salute and greet others, to spread around good deeds and to prevent misdeeds". Agreed upon, Riyad al-Salihin, P. 103, serial 190.</div><div>3. Prophet (pbuh) said: "Belief is around sixty or seventy categories, least of all is to prevent road hazards and its utmost is the belief in the oneness of God". Narrated by al-Bukari, al-Targhib wa al-Tarhib, Part Four, P. 34.</div><div>4. Prophet (pbuh) said: "A charity is justice between two is a man helping to relieve the burden off an animal's back, is a decent work, in every step taken towards the mosque and it is preventing roads hazards and harmful acts". Narrated by al-Bukari, al-Targhib wa al-Tarhib, Part Four, P. 34.</div><div>5. Prophet (pbuh) said: "while a man was walking, he came across a thorny tree branch so he put aside; God thanked the man and forgave him for earlier mistakes". Narrated by al-Bukari, al-Targhib wa al-Tarhib, Part Four, P. 36.</div><div>6. Prophet (pbuh) said: "I've seen a man enjoying happiness in heaven, because he removed a tree from the middle of the road that used to bother Muslims". Narrated by Muslim, al-Targhib wa al-Tarhib, Part Four, P. 36.</div><div>7. Prophet (pbuh) said: "Beware the two damned". They asked "what are the two damned, he said: "He who uses the middle of the road for toileting or in the shade". Narrated by Muslim, Riyad al-Salihin, P. 667, serial 1769.</div></div>	<div><div>• It is not good to sit in the road.</div><div>• Perform the regulation of road if you site there.</div><div>• Sitting area in the road side and pedestrian paths should consider the privacy of walkers.</div><div>• Islam emphasis road safety and cleanness.</div><div>• Islam emphasis pedestrian safety.</div><div>• Islam forbidden using roads and shade area as toilets.</div><div>• There is needed for public toilet near the road.</div></div>	<div><div>1. Setting area - adequate.</div><div>2. Setting area - convenient.</div><div>3. Car parking.</div><div>4. Size of road.</div><div>5. Layout of the road.</div><div>6. Car traffic.</div><div>7. Public transportation facilities.</div><div>8. Cleanness of the road.</div><div>9. Safety of the road.</div><div>10. Size of pedestrian way.</div><div>11. Layout of pedestrian way.</div><div>12. Shading of pedestrian way.</div><div>13. Road/ pedestrian way separation.</div><div>14. Public toilet near the road.</div><div>15. Visual privacy.</div><div>16. Audible privacy.</div></div>

Table A.13: Roads and spaces (continued)

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
<div>Roads and spaces (continued)</div> <div>8. Allah said: "And of the cattle (are some) for burden (like camels etc.) and (some are) small (unable to carry burden like sheep, goats etc. for food, meat, milk, wool etc.). Eat of what Allah has provided for you, and follow not the footsteps of Shaitan (Satan). Surely he is to you an open enemy. Sura (6) al-An'am verse (142). 9. Allah said: "And the slaves of the Most Beneficent (Allah) are those who walk on the earth in humility and sedateness, and when the foolish address them (with bad words) they reply back with mild words of gentleness. Sura (25) al-Furqan verse (63). 10. Narrated Abu Huraira heard Allah's Messenger (pbuh) saying, : "If (the Iqama of) As-Salat (the compulsory congregational prayer is pronounced) is started, do not run for but just walk for it calmly and pray whatever you get, and complete whatever is missed." (Sahih A Bukhari, Hadith No.31 Vol. 2) 11. Narrated Abu Huraira: the Prophet (pbuh) judged that seven cubits should be left as a public way when there was a dispute about the land. (Sahih Al-Bukhari, Hadith No.653, Vol.3) 12. Narrated Abu Huraira : Allah's Messenger (pbuh) said, : "While a man was going on his way, he saw a thorny branch and removed it from the way and Allah become pleased by his action and forgave him for that." Sahih Al- Bukhari Hadith No.624. Vol.1) 13. Allah said: " And be moderate (or show no insolence) in your walking, and lower your voice. Verily, the harshest of all voices is the voice (braying) of the ass." Sura (31) Luqman verse (19).</div>	<div>• Means of transportation could be used for movement and travel.</div> <div>• walking should be in humility and sedates.</div> <div>• Walking calmly to Mosques is better than running to it.</div> <div>• Public way should be maintained.</div> <div>• Road and pedestrian ways should be kept cleaned.</div> <div>• Walking should not be with insolence.</div>	<div>1. Setting area - adequate.</div> <div>2. Setting area - convenient.</div> <div>3. Car parking.</div> <div>4. Size of road.</div> <div>5. Layout of the road.</div> <div>6. Car traffic.</div> <div>7. Public transportation facilities.</div> <div>8. Cleanness of the road.</div> <div>9. Safety of the road.</div> <div>10. Size of pedestrian way.</div> <div>11. Layout of pedestrian way.</div> <div>12. Shading of pedestrian way.</div> <div>13. Road/ pedestrian way separation.</div> <div>14. Public toilet near the road.</div> <div>15. Visual privacy.</div> <div>16. Audible privacy.</div>

Table A.14: Harvesting and planting

QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING	DEDUCTED ISLAMIC PRINCIPLES	SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION
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Harvesting and planting

1. Prophet (pbuh) said: "A Muslim will be rewarded for a tree that he planted which may help a man or bird". Narrated by al-Bukari, al-Targhib wa al-Tarhib, Part Three, P.224.
2. Prophet (pbuh) said: "No believer plants a plant to sustain men, birds, or animals unless he deserves God's charity" Narrated by Anas ibn Malik.
3. Prophet (pbuh) said: "whoever plants a tree that may not be eaten by a man or another creature will still be rewarded by God". Narrated by Ahmad, al-Targhib wa al-Tarhib, Part Three, P. 245.
4. Allah said: "As the righteous (they will be) in a position of security * Among gardens and springs". Sura (44) al-Dukhan verse (51-42).
5. Gabir quoted that Prophet (pbuh) said: "No Muslim plants a plant, unless he deserves a credit for each one who eats from it, for each one who steels from it, and for each bird which eats from it, and for each one who shades under it". Narrated by Muslim.
6. Allah said: "He, Who produces for you the green tree, when behold! You kindle therewith. Sura (36) Ya-Sin verse (80)

- Islam encouraged people to harvesting and planting.
- Landscaping and green area should be selected from the type which produce food and fruits.
- Planting non eating plants also encouraged and be rewarded.
- Planting are useful not just for eating but for other purpose like shading and aesthetic.
- Natural environment honouring.

1. Distance to green spaces.
2. Size of landscaping area.
3. Type of landscaping area.
4. Visual privacy.
5. Audible privacy.
6. Safety and security.
7. Public toilet.

Table A.15: Entertainment

Entertainment

- 1 . Aisha said: " I once raced the prophet- pbuh- and won him, and latter on when I was carrying the meat he won me; I said one for one". Narrated by al Bukhari.
- 2 . Ibn Umar also retold, " the prophet raced his fellows on emaciated horses from al -Haifa' to Thaniyat Al Wida, and raced on healthy horses from el -Thaniya to bani -Zuraiq Mosque and I was among those he raced" .
(approved)
- 3 . Prophet (pbuh) said: " You have an obligation towards your body".

- Islam is religious of Life and Doctrine.
- Entertainment and sport activities are encouraged by Islam.
- Among the sport activity are racing, shouting and swimming.
- Privacy should be maintain in entertainment activities

1. Short distance to entertainment facilities.
2. Size of entertainment facilities.
3. Layout of the entertainment facilities.
4. Type of activities - convenient.
5. Visual privacy.
6. Audible privacy.
7. Inside privacy.
8. Safety and security

Table A.16: The Prophet's City

DEDUCTED ISLAMIC PRINCIPLES		SPECIFIC ELEMENT OF SATISFACTION & DISSATISFACTION	
QUR'ANIC VERSES AND PROPHETIC HADITH CONCERNED WITH ARCHITECTURE, PLANNING AND LANDSCAPING			
<div>The Prophet's City</div> <div><div>1. Narrated Abu Huraira If I saw (a herd of) deer grazing in Al-Madina, I would not chase them for Allah's Messenger (pbuh) said, "(Al-Madina) is a sanctuary between its two mountains." (Sahih Al-Bukhari. Hadith No.97 Vol.3)</div><div>2. Narrated Zaid bin Thabit The Prophet (pbuh) said, "It (i.e. Al-Madina) is Tayabah (good), it removes impurities as the fire removes the impurities of silver."</div><div>3. Narrated 'Abdullah bin Zaid Al-Mazini : Allah's Messenger (pbuh) said, (Between my house and my pulpit, there is a garden from amongst the gardens of Paradise.' (Sahih Al-Bukhari, Hadi'th No. 286 Vol.2)</div><div>4. Narrated Abu Huraira Allah's Messenger (pbuh) said "One Salat (prayer) in my mosque better than one thousand Salat in any other mosque except Al-Masjid- Al-Hardm. " (Sahih Al-Bukhari, Hadith No.282, Vol.2)</div><div>5. Narrated Abu Huraira The Prophet (pbuh) said, "Do not set out on a journey except for three mosques i.e. Al-Masjid-Al-Haram Makka), the mosque of Allah's Messenger (at Al-Madina and the mosque of Al-Aqsa (Mosque of Jerusalem). " (Sahih Al-Bukhari, Hadith No. 281-B, Vol.2)</div><div>6. Narrated Sa'd :I heard Allah's Messenger (pbuh) saying, somebody takes seven 'Ajwa dates the morning. neither magic nor poison will hurt him that day." (Sahih Al- Bukhati Hadith No.664, Vol.7).</div><div>7. Narrated Anas :The Prophet (pbuh) said, "O Allah! Bestow on Al-Madina twice the blessings You bestowed on Makka." (Sahih Al-Bukhari, Hadith No. 113, Vol.6)</div><div>8. Narrated 'Abdullah bin Zaid : The Prophet (pbuh) said "The Prophet Ibrahim (Abraham) made Makka a sanctuary, and asked for Allah's Blessing in it. I made Al-Madina a sanctuary as Ibra him made Makka a sanctuary and I asked for Allah's Blessing in its measure - the Mudd and the Sa as Ibrahim did for Makka. " (Sahih Al-Bukhari, Hadith No.339, Vol.3)</div></div>		<div><div>City was maintained in different verses in Qur'an.</div><div>Building city must be conformable to the Islamic spirit.</div><div>Al Madina is a sanctuary between its two mountains.</div><div>The important to pray between the house of the Prophet and his pulpit (now it's area within the Prophet's Mosque).</div><div>Encouragement to travel to Al-Madina for praying in Prophet's Mosque.</div><div>The important of eating from "Ajwa" dates) which grow in Al-Madina.</div><div>Al-Madina has twice the blessings that Allah bestowed on Makkah.</div><div>Allah's blessing Al Madinah Measure (the Mudd and Sa).</div></div>	<div><div>1. Size of city.</div><div>2. Layout of the city.</div><div>3. City facilities - adequate.</div><div>4. City facilities - convenient.</div><div>5. Visual privacy.</div><div>6. Audible privacy.</div><div>7. Safety and security.</div></div>

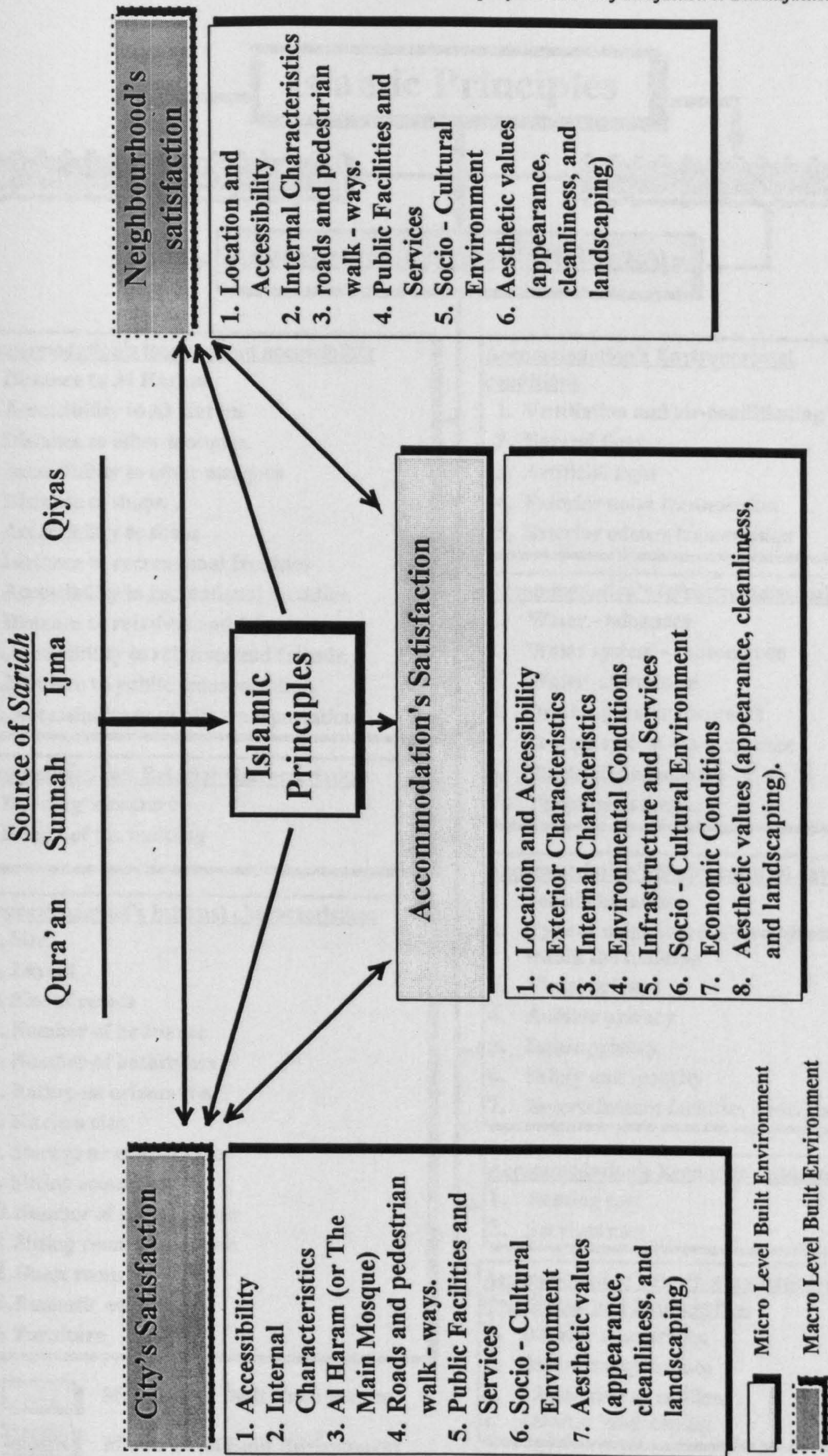


Fig A.1 A Model of Built Environment Satisfaction Based on Islamic Principles

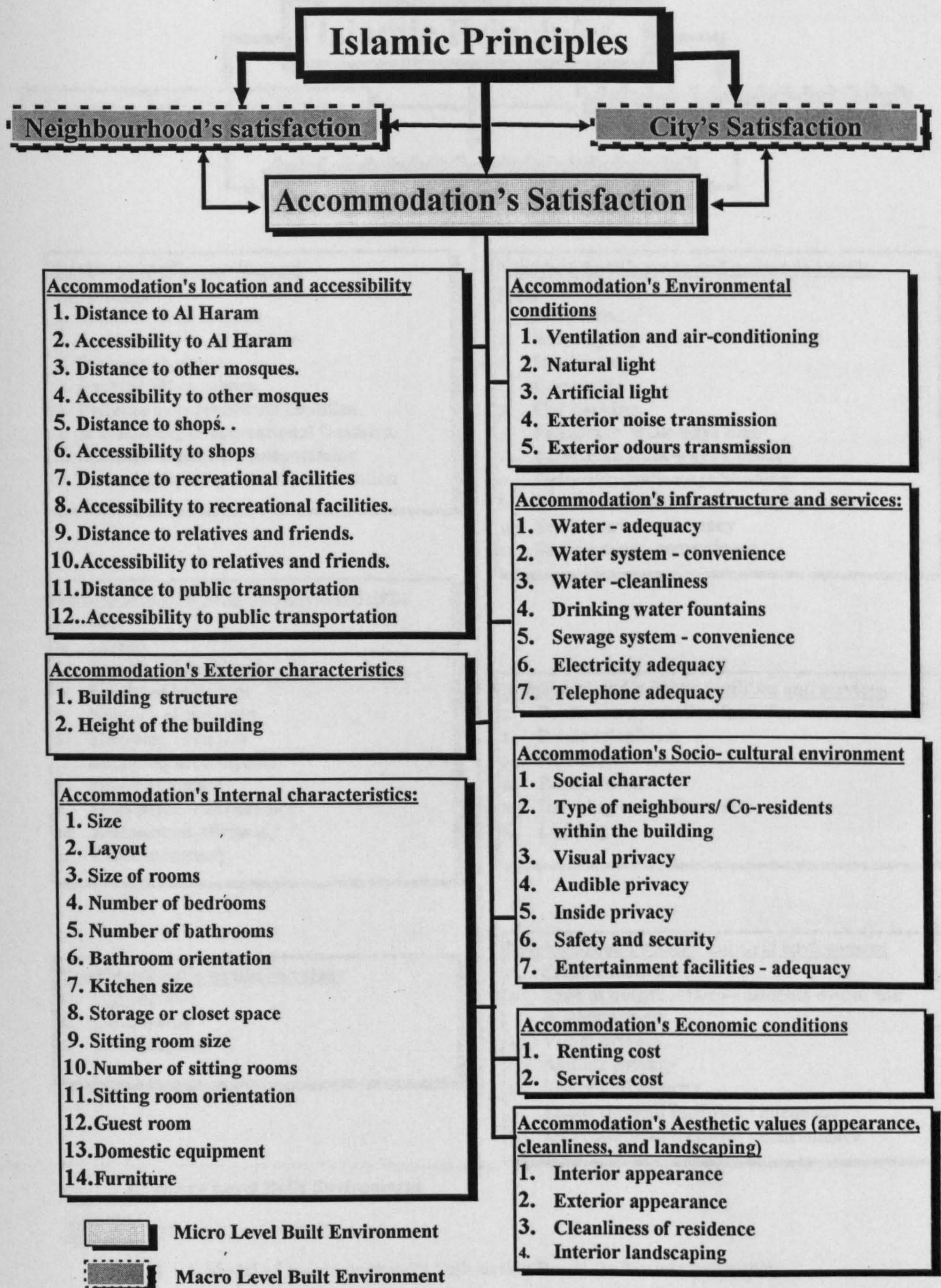


Fig A. 2 : A Model of Accommodation's Satisfaction Based On Islamic Principles

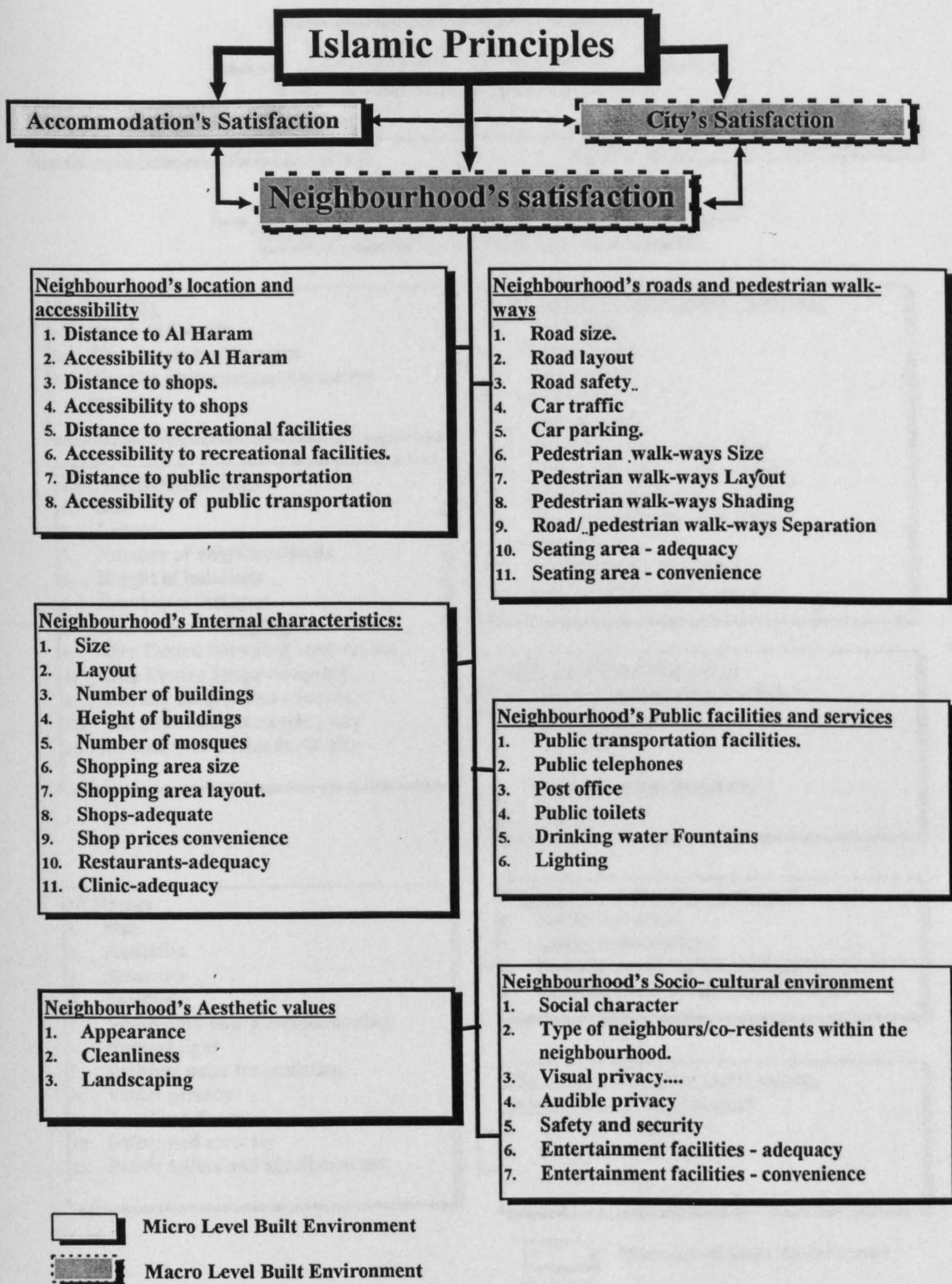


Fig A. 3 : A Model of Neighbourhood's Satisfaction Based On Islamic Principles

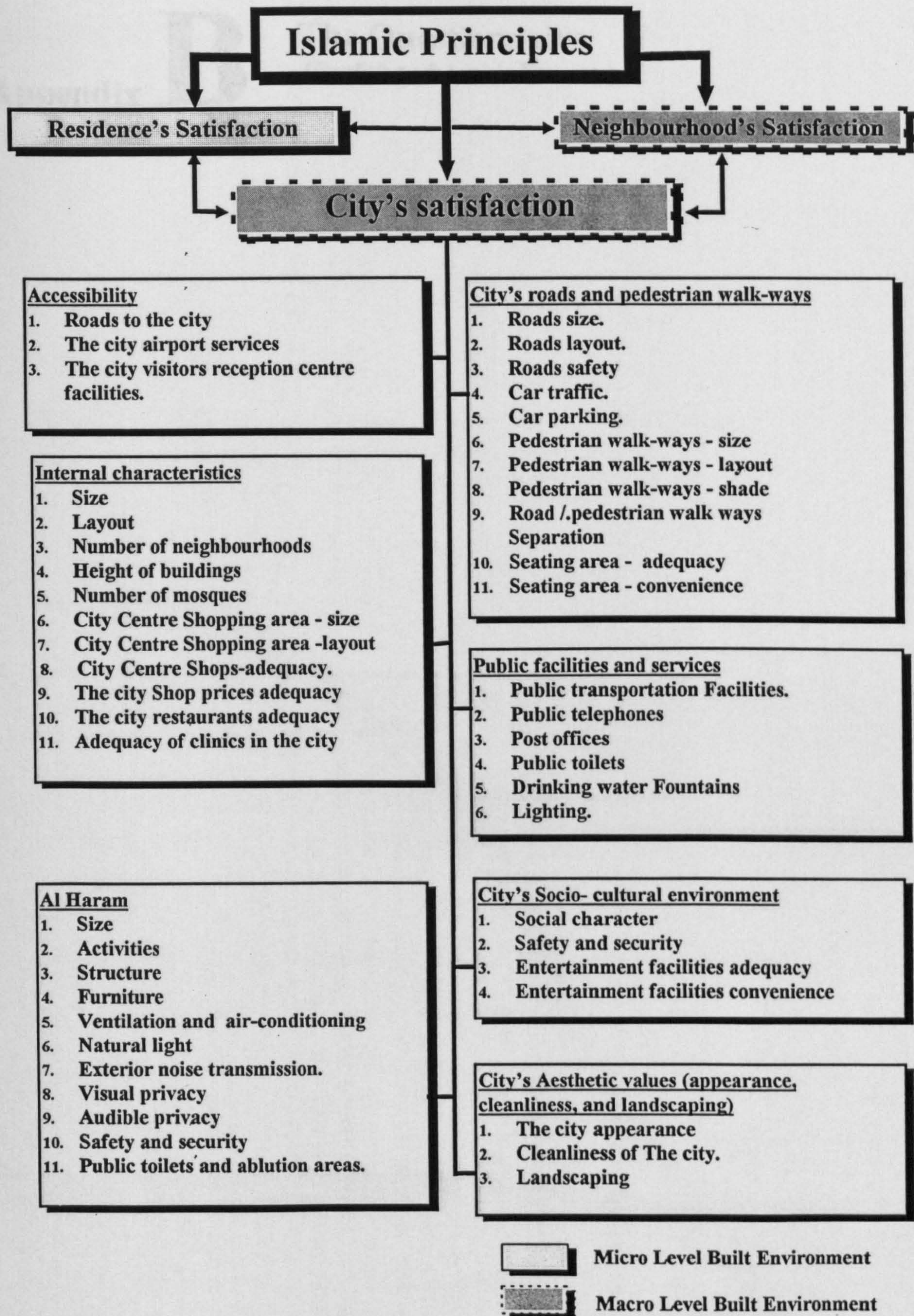


Fig A. 4 : A Model of City's Satisfaction Based On Islamic Principles

Appendix

B

The Questionnaire

(English and Arabic Formats)



In The Name Of God, The Most Gracious, And Most Merciful

Dear Brother Visitor of al-Madina,

Welcome to the prophet Mohammed’s (PBUH) city.

This is a scientific survey to find out the best housing type that will satisfy the visitor to the prophet’s city and to give us a guideline on the design of future Moslem homes and cities. It is part of my Ph.D. Thesis, which is “The Housing of Pilgrims in al-Madina: Islamic Principles and User Satisfaction” .

Brother Visitor, you have been selected randomly to give your opinion about the existing condition of the residence you are in now and on the city in general for the maximum benefit to the Holy City. Your answers will be dealt within a confidential manner.

please help by answering the questions on the following pages by placing a tick ☐ in the box(es) which best fits your own answer. The figures in the box are merely an aid for the analysis of the results. Please ignore them.

Your help will be greatly appreciated,

Yours Faithfully,

Abdulaziz Salem Alharrbi

I. General Information:

Q1. Did you come to Al Madina alone or with other members of your family?

- I came alone..... ☐ 1
- I came with one member of my family ☐ 2
- I came with two members of my family ☐ 3
- I came with three members of my family ☐ 4
- I came with more than three members of my family ☐ 5

Q2. How long do you intend to stay in Al Madina?

- For 1 to 7 days... ☐ 1 For 8-14 days. ☐ 2 For 15-21 days..... ☐ 3
- For 22 -28 days . ☐ 4 More than 28 day.. ☐ 5

Q3. How many bedrooms does your residence contain?

- One bedroom..... ☐ 1 Two bedroom..... ☐ 2 Three bedrooms ☐ 3
- Four bedrooms.... ☐ 4 Five bedrooms ☐ 5 More than five bedrooms ☐ 6

Q4. If you live in a hotel, guest house, or furniture room, do you share your room with other people?

- No, I do not share my room with anybody else. ☐ 1
- I share with another person. ☐ 2
- I share with two people. ☐ 3
- I share with three people. ☐ 4
- I share with more than three people ☐ 5

Q5. How did you arrange for your accommodation?

- Through Aladala agents..... ☐ 1 Through real estate offices in Madina..... ☐ 2
- Through travel agent in home. ☐ 3 Through the help of relatives in Madina ☐ 4

6. How do you generally get to the Haram?

- On foot ☐ 1 By private..... ☐ 2 By b ☐ 3 By taxi..... ☐ 4
- Others (please specify.....)..... ☐ 5

7. How many prayers do you attend in Al Haram every day?

- 0-1 prayer /a day... ☐ 1 2-4 prayers /a day.... ☐ 2 5 prayers / a day. ☐ 3

8. Where do you make your ablution?

- At my residence..... ☐ 1 At a residence public toilet. ☐ 2
- At a public toilet of the Haram ... ☐ 3 other (please specify:) ☐ 4

9. Where do you eat most of your meals?

- I cook food in the room... ☐ 1
- I cook food in my residence kitchen..... ☐ 2
- I share a common kitchen with others..... ☐ 3
- I eat in the restaurant of the residence..... ☐ 4
- I use the delivery service from outside. ☐ 5
- I eat outside the building..... ☐ 6

10. Where do you wash and dry your clothes?

- In my room..... ☐ 1
- In washing machines/dryers that are available in my residence..... ☐ 2
- In a common washing machine / dryer..... ☐ 3
- The building has a laundry service. ☐ 4
- Outside at a the laundry,..... ☐ 5

II. Degree Of Satisfaction

A. Degree of Satisfaction With The Residence:

Q11. Think about the residence you are in now. How satisfied are you with the following aspects.?

Please tick one box ☒ Very satisfied Fairly satisfied Neither satisfied nor dissatisfied Very dissatisfied

Residence's location and accessibility:

1. Distance to Al Haram ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
2. Accessibility to Al Haram ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
3. Distance to other mosque..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
4. Accessibility to other mosques... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
5. Distance to shopping ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
6. Accessibility to shopping ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
7. Distance to recreational ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Facilities .
8. Accessibility to recreational..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Facilities.
9. Distance to relatives..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- And friends.
10. Accessibility to relatives..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- And friends.
11. Distance to public ... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- transportation
12. .Accessibility to public ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- transportation

Please tick one box ☒ Very satisfied Fairly satisfied Neither satisfied nor dissatisfied Very dissatisfied

Residence's Exterior characteristics:

13. Building structure ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
14. Height of the building..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Residence's Internal characteristics:

15. Size of residence..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
16. Layout of the residence..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
17. Size of rooms..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
18. Number of bedrooms..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
19. Number of bathrooms..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
20. Bathroom orientation..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
21. Kitchen size..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
22. Storage or closet space..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
23. Sitting room size..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
24. Number of sitting rooms..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
25. Sitting room orientation..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
26. Guest room..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
27. In-home equipment..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
28. Furniture..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Residence's Environmental conditions:

29. Ventilation and air-conditioning ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
30. Natural light..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
31. artificial light..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
32. Exterior noise transmission..... ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
33. Exterior bad smell transmission ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Q11. (continued)

Please tick one box ☒ for each aspect :

Residence's infrastructure and services:

- | | Very
satisfied | Fairly
satisfied | Neither
satisfied
nor
dissatisfied | Fairly
dissatisfied | Very
dissatisfied |
|---------------------------------------|----------------------------|----------------------------|---|----------------------------|----------------------------|
| 34. Residence water - adequacy..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 35. Water system - convenience. ... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 36. Residence water -cleanliness. ... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 37. Residence drinking water | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| Fountains | | | | | |
| 38. Sewage system - convenience. ... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 39. Electricity adequacy. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 40. Telephone adequacy. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

Residence's Socio- cultural environment

- | | | | | | |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 41. Social character of the Building..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 42. Type of neighbours/ Co- residents within the building. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 43. Visual privacy..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 44. Audible privacy..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 45. Inside privacy..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 46. Safety and security..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 47. Entertainment facilities | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

adequate

Residence's Economical conditions:

- | | | | | | |
|----------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 48. Residence renting cost | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 49. Services cost..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

Residence's Aesthetic values (appearance, cleanliness, and landscaping):

- | | | | | | |
|---------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 50. Residence interior appearance ... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 51. Residence exterior appearance... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 52. Cleanliness of residence. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 53. Residence interior landscaping.. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

Q12. How would you sum up your feeling about living in the residence you are in now, as a visitor?

Please tick one box: ☒ Very satisfied ☐ Fairly satisfied ☐ Neither satisfied nor dissatisfied ☐ Fairly dissatisfied ☐ Very dissatisfied

My feeling as a visitor toward ... ☐1 ☐2 ☐3 ☐4 ☐5
 living in the residence that I am
 in now in general is

B. Degree of Satisfaction With The Neighbourhood:

Q13. Think about the neighbourhood in which the residence you are in now is located. How satisfied are you with the following aspects?

Please tick one box ☒ for each aspect :

	Very satisfied	Fairly satisfied	Neither satisfied nor dissatisfied	Fairly dissatisfied	Very dissatisfied
--	-------------------	---------------------	---	------------------------	----------------------

Neighbourhood's location and accessibility :

- | | | | | | |
|------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1. Distance to Al Haram..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 2. Accessibility to Al Haram.... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 3. Distance to shopping. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 4. Accessibility to shopping | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 5. Distance to recreational | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| Facilities . | | | | | |
| 6. Accessibility to recreational.. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| Facilities. | | | | | |
| 7. Distance to public.. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| transportation | | | | | |
| 8. Accessibility to public | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| transportation | | | | | |

Q13. (continued)

Please tick one box <input type="checkbox"/>		Neither satisfied nor dissatisfied			
for each aspect :		Very satisfied	Fairly satisfied	Fairly dissatisfied	Very dissatisfied
<u>Neighbourhood's Internal characteristics:</u>					
9.	Size of the neighbourhood.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Layout of the neighbourhood....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Number of buildings in the neighbourhood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	Height of buildings in the neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	Number of mosques in the neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Neighbourhood Shopping area. size	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	Neighbourhood Shopping area layout.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	Neighbourhood Shops-adequate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	Neighbourhood Shop prices convenient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	Neighbourhood restaurants-adequate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	Neighbourhood clinic-adequate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Neighbourhood's roads and pedestrian walk-ways</u>					
20.	Neighbourhood Roads size.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	Neighbourhood Roads layout....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	Neighbourhood Roads safety.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	Neighbourhood Car traffic.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	Neighbourhood Car parking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick one box <input type="checkbox"/>		Neither satisfied nor dissatisfied			
for each aspect :		Very satisfied	Fairly satisfied	Fairly dissatisfied	Very dissatisfied
<u>Neighbourhood's roads and pedestrian walk-ways (continued):</u>					
25.	Neighbourhood pedestrian walk-ways Size	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	Neighbourhood pedestrian walk-ways Layout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	Neighbourhood pedestrian walk-ways Shading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	Neighbourhood Road/pedestrian walk-ways Separation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	Neighbourhood sitting area adequate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	Neighbourhood Sitting area convenient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Neighbourhood's Public facilities and services:</u>					
31.	Neighbourhood public transportation facilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.	Neighbourhood public telephones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.	Neighbourhood post office.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.	Neighbourhood public toilets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.	Neighbourhood drinking water fountains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.	Neighbourhood lighting.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Neighbourhood's Socio-cultural environment</u>					
37.	Neighbourhood social character	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.	Type of neighbours/co-residents within the neighbourhood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q13. (continued)

Please tick one box ☒ for each aspect :

Neither
satisfied
nor
Fairly
Very
satisfied

Very
satisfied

Fairly
dissatisfied

Fairly
dissatisfied

Very
dissatisfied

Very
dissatisfied

Neighbourhood's Socio- cultural environment (continued):

39. Neighbourhood visual privacy.... ☐ ☐ ☐ ☐ ☐ ☐
40. Neighbourhood audible privacy. ☐ ☐ ☐ ☐ ☐ ☐
41. Neighbourhood safety and..... ☐ ☐ ☐ ☐ ☐ ☐
42. Neighbourhood entertainment... ☐ ☐ ☐ ☐ ☐ ☐
43. Neighbourhood entertainment... ☐ ☐ ☐ ☐ ☐ ☐
44. facilities/ adequate facilities/ convenient

Aesthetic values (appearance, cleanliness, and landscaping):

44. Neighbourhood appearance ☐ ☐ ☐ ☐ ☐ ☐
45. Cleanliness of neighbourhood. ☐ ☐ ☐ ☐ ☐ ☐
46. Neighbourhood landscaping ☐ ☐ ☐ ☐ ☐ ☐

Q14. As a visitor ,How would you sum up your feeling about living in the neighbourhood in which the residence you are in now is located.

Please tick one box: ☒ Very Fairly Very
satisfied satisfied dissatisfied dissatisfied

My felling as a visitor toward.... ☐ ☐ ☐ ☐ ☐ ☐

living in the neighbourhood in

which the residence that I am in now is located, generally is

C. Degree of Satisfaction With The Prophet City:

(Note: In this part of questions it was meant by (the city) parts of Al Medina other than the neighbourhood in which your residence now is located)

Q15. Think about Al Medina as the Prophet city. How satisfied are you with the following aspects.?

Please tick one box ☒ for each aspect :

Neither
satisfied
nor
Fairly
Very
satisfied

Very
satisfied

Fairly
dissatisfied

Very
dissatisfied

city's accessibility :

1. Roads to the city ☐ ☐ ☐ ☐ ☐ ☐

2. The city airport services... ☐ ☐ ☐ ☐ ☐ ☐

3. The city visitors reception centre ☐ ☐ ☐ ☐ ☐ ☐

facilities.

City's Internal characteristics:

4. Size of the city.. ☐ ☐ ☐ ☐ ☐ ☐
5. Layout of the city..... ☐ ☐ ☐ ☐ ☐ ☐
6. Number of neighbourhoods in .. ☐ ☐ ☐ ☐ ☐ ☐
- the city.
7. Height of buildings in the city..... ☐ ☐ ☐ ☐ ☐ ☐
8. Number of mosques in the city ☐ ☐ ☐ ☐ ☐ ☐
9. City Centre Shopping area size ☐ ☐ ☐ ☐ ☐ ☐
10. City Centre Shopping area layout ☐ ☐ ☐ ☐ ☐ ☐
11. City Centre Shops-adequate. ☐ ☐ ☐ ☐ ☐ ☐
12. The city Shop prices adequate .. ☐ ☐ ☐ ☐ ☐ ☐
13. The city restaurants adequate - ☐ ☐ ☐ ☐ ☐ ☐
14. Adequate of clinics in the city ... ☐ ☐ ☐ ☐ ☐ ☐

Q15. (continued)

Please tick one box

☒

for each aspect :

Neither satisfied

nor dissatisfied

Fairly dissatisfied

Very dissatisfied

Very satisfied

Fairly satisfied

Neither satisfied

nor dissatisfied

Fairly dissatisfied

Very dissatisfied

Al Haram :

15. Al Haram size.

☐

☐

☐

☐

☐

16. Al Haram activities.

☐

☐

☐

☐

☐

17. Al Haram structure.

☐

☐

☐

☐

☐

18. Al Haram furniture.

☐

☐

☐

☐

☐

19. Al Haram ventilation and air-conditioning

☐

☐

☐

☐

☐

20. Al Haram natural light.

☐

☐

☐

☐

☐

21. Al Haram exterior noise Transmission.

☐

☐

☐

☐

☐

22. Al Haram visual privacy.

☐

☐

☐

☐

☐

23. Al Haram audible privacy.

☐

☐

☐

☐

☐

24. Al Haram safety and security.

☐

☐

☐

☐

☐

25. Al Haram public toilets and Ablution areas.

☐

☐

☐

☐

☐

The city's roads and pedestrian walk-ways

26. The city roads size.

☐

☐

☐

☐

☐

27. The city roads layout.

☐

☐

☐

☐

☐

28. The city roads safety ...

☐

☐

☐

☐

☐

29. The city car traffic.

☐

☐

☐

☐

☐

30. The city car parking.

☐

☐

☐

☐

☐

31. The city pedestrian walk-ways Size

☐

☐

☐

☐

☐

32. The city pedestrian walk-ways Layout

☐

☐

☐

☐

☐

33. The city pedestrian walk-ways Shading

☐

☐

☐

☐

☐

The city's roads and pedestrian walk-ways(continued):

34. The city Road / pedestrian walk ways Separation

☐

☐

☐

☐

☐

35. The city sitting area - adequate

☐

☐

☐

☐

☐

36. The city Sitting area - convenience

☐

☐

☐

☐

☐

The city's Public facilities and services:

37. The city Public transportation Facilities.

☐

☐

☐

☐

☐

38. The city Public telephones.....

☐

☐

☐

☐

☐

39. The city post offices.....

☐

☐

☐

☐

☐

40. The city Public toilets.....

☐

☐

☐

☐

☐

41. The city drinking water..... Fountains

☐

☐

☐

☐

☐

42. The city lighting.

☐

☐

☐

☐

☐

The city's Socio- cultural environment

43. The city Social character.....

☐

☐

☐

☐

☐

44. The city Safety and security.

☐

☐

☐

☐

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45. The city Entertainment facilities/adequate

☐

☐

☐

☐

☐

46. The city Entertainment facilities/convenient

☐

☐

☐

☐

☐

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Q18. Why? (Choose the three most important reasons).

Because its/they are much nearer to the Haram..... 1

Because it reflects/ they reflect the Islamic architecture in its design. 2

Because it is a higher building /they are higher buildings .. 3

Because it is a lower building / they are lower buildings . 4

I think the services are better 5

The room size may be larger. 6

Other reasons (please specify 7

IV: Personal Information

Q20. How old are you?

Less than 20 years old. ☐ 1 21-30 years old ☐ 2 31-40 years old ☐ 3
41-50 years old ☐ 4 51-60 years old ☐ 5 over 60 years old ☐ 6

Q21. What is your occupation?

Self-employee... ☐ 1 Employed.... ☐ 2 Unemployed ☐ 3 Retired ☐ 4
Student ☐ 5 Other (please specify:) ☐ 6

Q22. Educational status (please tick the last certificate you obtained)

Can not read or write.....	1
Can read and write	2
Hold a primary certificate.....	3
Hold an intermediate certificate or its equivalent.....	4
Hold a secondary certificate or its equivalent.....	5
Hold a college certificate or its equivalent.....	6
University degree or its equivalent.....	7



أخي العزيز زائر المدينة المنورة

السلام عليكم ورحمة الله وبركاته، ومرحباً بكم في مدينة الرسول صلى الله عليه وسلم.

هذا بحث علمي لمعرفة أفضل سكن ملائم لزوار مدينة الرسول صلى الله عليه وسلم، والذي سيرشدنا لتصميم المدينة والبيت الإسلامي مستقبلاً. وهو جزء من دراستي لنيل درجة الدكتوراة في موضوع (إسكان الحجاج في المدينة المنورة: المبادئ الإسلامية ورضى المستخدم).

أخي الزائر، لقد تم اختيارك عشوائياً دون سابق معرفة لأعطى رأيك عن الوضع الحالي لسكنك الذي تقيم فيه الآن، وعن المدينة المنورة بشكل عام. سوف يؤدي تعاونك بالمنفعة لمستقبل مدينة الرسول صلى الله عليه وسلم. علماً أن إجابتك سوف تؤخذ بشكل سري.

لذا أرجو المساعدة في إلى جابه على الاسئلة في الصفحات التالية وذلك بوضع علامة صح ☒ في المستطيل الذي يوافق اقرب درجة إلى إجابتك. علماً أن الأرقام في المستطيلات قد وضعت لغرض التحليل العلمي لذا أمل عدم الاهتمام بها

شاكر تعاونكم، والسلام عليكم ورحمة الله وبركاته.

أخوكم | عبد العزيز سالم الحربي

أولاً : معلومات عامة:

س ١: هل أتيت للمدينة المنورة بمفردك أم مع أحد من أفراد عائلتك؟

أتيت بمفردى ☐أتيت مع واحد من أفراد عائلتي ☐أتيت مع اثنان من أفراد عائلتي ☐أتيت مع ثلاثة من أفراد عائلتي ☐أتيت مع أكثر من ثلاثة من أفراد عائلتي ☐

س ٢: ما هي الفترة التي تريد ان تقضيها في المدينة المنورة؟

من يوم إلى ٧ أيام ☐ من ٨ إلى ١٤ يوماً ☐ من ١٥ إلى ٢١ يوماً ☐من ٢٢ إلى ٢٨ يوماً ☐ أكثر من ٢٨ يوماً ☐

س ٣: من كم غرفة نوم يتكون السكن الذي تسكن فيه؟

غرفة نوم واحد ☐ ٢ غرفة نوم ☐ ٣ غرفة نوم ☐٤ غرف نوم ☐ ٥ غرف نوم ☐ أكثر من ٥ غرف نوم ☐

س ٤: هل يشاركك احد في سكنك؟

لا يشاركني أي شخص ☐يشاركني شخص واحد ☐يشاركني شخصان ☐يشاركني ثلاثة أشخاص ☐يشاركني أكثر من ثلاثة أشخاص ☐

س ٥: كيف قمت بالترتيب لسكنك؟

عن طريق مؤسسة الإدلاء ☐ عن طريق وكالة سفريات في بلدي ☐عن طريق مكتب عقار في المدينة المنورة ☐ بمساعدة أحد الأقارب بالمدينة ☐

س ٦: كيف بالعادة تذهب إلى الحرم النبوي الشريف؟

سير على الاقدام ☐ بسياره خاصه ☐ بواسطة الباص ☐ بسياره اجرة ☐وسائل أخرى (أرجو ذكرها) ☐

س ٧: كم صلاة مكتوبة تصلي غالباً في الحرم النبوي الشريف كل يوم؟

٠ إلى ١ صلاة يومياً ☐ ٢ إلى ٤ صلوات يومياً ☐ ٥ صلوات يومياً ☐

س ٨: أين تتوضأ؟

في السكن ☐ في دورات مياه عامه بالسكن ☐دورات المياه العامة التابعة للحرم ☐ في أماكن أخرى (أرجو ذكرها) ☐

س ٩: أين تأكل معظم وجباتك؟

اطبخ طعامي في الغرفة ☐اطبخ طعامي في مطبخ سكني ☐اطبخ طعامي في مطبخ عام (مشترك) في السكن ☐أكل في مطعم السكن ☐استخدم توصيل الطلاب من الخارج ☐أكل خارج المبنى الذي اسكن فيه ☐

س ١٠: أين تغسل وتنشف ملابسك؟

في غرفتي ☐في مكته غسيل ١ تنشيف الملابس الموجودة في سكني ☐استخدم مكته غسيل ١ تنشيف ملابس عامه (مشتركة) ☐عن طريق خدمة الغسيل والتنشيف للمبنى ☐في محلات المغاسل الخارجية ☐

ثانياً: درجة الرضحي:

أ: درجة الرضحي عن السكن

س ١١: فكر في سكنك الذي تسكن به الآن. ما هي درجة رضاك عن المواضيع التالية ؟

(أرجو وضع علامة صح واحد ☐ لكل موضوع)

موضوع	موضوع	موضوع	موضوع	موضوع
موقع المسكن وسهولة الوصول إليه	موضوع	موضوع	موضوع	موضوع
١. القرب من الحرم الشريف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢. سهولة الوصول إلى الحرم	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣. القرب من المساكن الأخرى	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤. سهولة الوصول إلى المساكن الأخرى	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٥. القرب من السوق	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٦. سهولة الوصول إلى السوق	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٧. القرب من وسائل الترفيه	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٨. سهولة الوصول إلى وسائل الترفيه	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٩. القرب من الأقارب والأصدقاء	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٠. سهولة الوصول إلى الأقارب والأصدقاء	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١١. القرب من وسائل المواصلات العامة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٢. سهولة الوصول إلى وسائل المواصلات العامة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
الصفات الخارجية للمسكن				
١٣. قوة المبنى الإنشائية	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٤. ارتفاع المبنى	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

تابع س ١١

(أرجو وضع علامة صح واحد ☐ لكل موضوع)

الصفات الداخلية للمسكن

موضوع	موضوع	موضوع	موضوع	موضوع
١٥. مساحة المسكن	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٦. تصميم المبنى	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٧. مساحة الغرف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٨. عدد غرف النوم	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٩. عدد دورات المياه	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٠. توجيه دورات المياه	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢١. مساحة المطبخ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٢. المخازن والمستودعات	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٣. مساحة غرف الجلوس	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٤. عدد غرف الجلوس	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٥. توجيه غرف الجلوس	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٦. غرفة الضيوف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٧. الأدوات المنزلية	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٨. الأثاث المنزلي	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
الحالات البنيوية للمسكن				
٢٩. التهوية والتكيف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٠. الإضاءة الطبيعية	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣١. الإضاءة الصناعية	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٢. انتقال الأصوات من الخارج	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٣. انتقال الروائح السيئة الخارجية	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
الخدمات العامة للمسكن				
٣٤. كفاية مياه السكن	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٥. ملائمة نظام المياه كفايته	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

أرجو وضع علامة صح واحده لكل موضوع ☒

مريضه جادا	مريضه	محايد	غير مريضه	غير مريضه على الاطلاق
(تابع) الخدمات العامة للمسكن				
٣٦. نظافة مياه السكن.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٧. برادات مياه الشرب بالسكن.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٨. نظام الصرف الصحي ا كفايته	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٩. كفاية كهرباء السكن.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٠. كفاية تلفون السكن.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
البيئة الاجتماعية والثقافية للمسكن				
٤١. التواحي الاجتماعية في المبني.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٢. نوعية الجيران وتعاونهم	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٣. الخصوصية من الكشف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
الخارجي				
٤٤. الخصوصية من انتقال	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
الأصوات				
٤٥. الخصوصية من الكشف الداخلي.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٦. الامن والسلامة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٧. وسائل الترفيه كفاية	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
الحالات الاقتصادية للمسكن				
٤٨. تكلفة أيجار المسكن	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٩. تكلفة خدمات المسكن	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
القيم الحمالية للمسكن (المظهر، النظافة، التشجير والتنسيق البيئي)				
٥٠. مظهر السكن الداخلي.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٥١. مظهر السكن الخارجي	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٥٢. نظافة السكن.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٥٣. التشجير الداخلي للمسكن	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

س ١٢: كيف تقيس محصله شعورك حول السكن بمسكنك الحالي كزائر؟

(از مجموع علامه صح و احده، ☐ اکل موضوع)

غير مريضه على الاطلاق	غير مريضه	مريضه	محاليد	مريضه جدا	مريضه جدا
1. محصلة شعوري حول سكني	1	2	3	4	5
الحالي كزائر					
ب: درجة الرضي عن الحارة (الحي)					
س ١٣: فكر في الحارة التي يقع بها سكناك الذي تسكن به الآن م. اهي درجة رضاك عن المواضيع التالية ؟					
(ارجو وضع علامة صح واحده لكل موضوع)					
موقع الحارة وسهولة الوصول اليها					
١. القرب من الحرم الشريف.....	1	2	3	4	5
٢. سهولة الوصول إلى الحرم.....	1	2	3	4	5
٣. القرب من السوق.....	1	2	3	4	5
٤. سهولة الوصول إلى السوق.....	1	2	3	4	5
٥. القرب من وسائل الترفيه.....	1	2	3	4	5
٦. سهولة الوصول إلى وسائل الترفيه	1	2	3	4	5
٧. القرب من وسائل المواصلات. العامة	1	2	3	4	5
٨. سهولة الوصول إلى وسائل المواصلات العامة	1	2	3	4	5

ب: لرحلة الرضی عن الحارة (الحي)

س ١٣ : فكر في الحارة التي يقع بها سكنك الذي تسكن به الآن . م اهي درجة رضاك عن المواضيع التالية ؟

(از مجموع علامه صبح واحده
کامل موضوع)

موضوعه	موضوعه	موضوعه	موضوعه	موضوعه
موقع الحارة وسهوله الوصول إليها	موضوعه	موضوعه	موضوعه	موضوعه
١. القرب من الحرم الشريف.....	٢	٣	٤	٥
٢. سهوله الوصول إلى الحرم.....	٢	٣	٤	٥
٣. القرب من السوق.....	٢	٣	٤	٥
٤. سهوله الوصول إلى السوق.....	٢	٣	٤	٥
٥. القرب من وسائل الترفيه.....	٢	٣	٤	٥
٦. سهوله الوصول إلى وسائل الترفيه	٢	٣	٤	٥
٧. القرب من وسائل المواصلات.	٢	٣	٤	٥
العامه	٢	٣	٤	٥
٨. سهوله الوصول إلى وسائل المواصلات العامه	٢	٣	٤	٥

(تابع من ١٣)

(أرجو وضع علامة صح واحد لكل موضوع)

مريضه جدا مريضه محايد غير مريضه غير مريضه على الإطلاق

الصفات الداخلية للحارة	١	٢	٣	٤	٥
٩٠. مساحة الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٠. تصميم الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١١. عدد المباني في الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٢. ارتفاع المباني في الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٣. عدد المساجد في الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٤. مساحة سوق الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٥. تصميم سوق الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٦. كفاية سوق الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٧. ملائمة أسعار سوق الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٨. كفاية مطاعم الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٩. كفاية مستوصف الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
طرق السيارات وممرات المشاة والمساحات العامة					
٢٠. عرض طرق الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢١. تصميم طرق الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٢. السلامة على طرق الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٣. حركة مرور السيارات بالحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٤. مواقف السيارات بالحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٥. عرض ممرات المشاة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٦. تصميم ممرات المشاة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٧. تظليل ممرات المشاة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(تابع من ١٣)

(أرجو وضع علامة صح واحد لكل موضوع)

مريضه جدا مريضه محايد غير مريضه غير مريضه على الإطلاق

طرق السيارات وممرات المشاة والمساحات العامة	١	٢	٣	٤	٥
٢٨. الفصل بين طرق السيارات وممرات المشاة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٩. أماكن الجلوس بالحارة - كفايتها	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٠. أماكن الجلوس بالحارة - ملائمتها	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣١. كفاية وسائل المواصلات العامة بالحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٢. كفاية التلغونات العامة بالحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٣. كفاية مكتب البريد بالحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٤. كفاية دورات المياه العامة بالحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٥. برادات مياه الشرب بالحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٦. إضاءة الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٧. البيئة الاجتماعية والثقافية للحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٨. نوعية الجيران وتعاونهم في الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٩. الخصوصية من الكشف الخارجي في الحارة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(تابع س ١٥)

(أرجو وضع علامة صح واحد لكل موضوع)

معرضه جدا	معرضه	محاذ	غير معرضه	غير معرضه على الإطلاق
الحرم النبوي الشريف				
١٥. مساحة الحرم الشريف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٦. خدمات الحرم الشريف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٧. قوة الإنشاء للحرم الشريف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٨. الأثاث في الحرم الشريف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
١٩. التهوية والتكييف بالحرم	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٠. الإضاءة الطبيعية بالحرم	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢١. انتقال الأصوات الخارجية	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
للحرم الشريف				
٢٢. الخصوصية من الكشف	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
البصري بالحرم الشريف				
٢٣. الخصوصية من انتقال	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
الأصوات بالحرم الشريف				
٢٤. السلامة والأمن داخل الحرم	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٥. دورات المياه والوضوء العامه	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
للحرم الشريف				
طرق السيارات وممرات المشاة والمساحات العامة				
٢٦. عرض طرق المدينة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٧. تصميم طرق المدينة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٨. السلامة على طرق المدينة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٢٩. حركة مرور السيارات بالمدينة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٠. مواقف السيارات بالمدينة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣١. عرض ممرات المشاة بالمدينة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(تابع س ١٥)

(أرجو وضع علامة صح واحد لكل موضوع)

معرضه جدا	معرضه	محاذ	غير معرضه	غير معرضه على الإطلاق
(تابع) طرق السيارات وممرات المشاة والمساحات العامة				
٣٢. تصميم ممرات المشاة بالمدينة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٣. تظليل ممرات المشاة بالمدينة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٣٤. الفصل بين طرق السيارات	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
وممرات المشاة بالمدينة				
٣٥. أماكن الجلوس بالمدينة -	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
كفائتها				
٣٦. أماكن الجلوس بالمدينة -	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ملائمتها				
الخدمات العامة للمدينة				
٣٧. كفاية وسائل المواصلات	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
العامة بالمدينة				
٣٨. كفاية التلفونات العامه	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
بالمدينة				
٣٩. كفاية مكتب البريد	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
بالمدينة				
٤٠. كفاية دورات المياه	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
العامة بالمدينة				
٤١. برادات مياه الشرب	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
بالمدينة				
٤٢. إضاءة المدينة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(تابع س ١٥)
 (أرجو وضع علامة صح واحد ☐ لكل موضوع)

مرضه جدا	مرضه	محايد	غير مرضه	غير مرضه على الإطلاق
البيئة الاجتماعية والثقافية للمدينة				
٤٣. النواحي الاجتماعية في المدينة <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٤. الأمن والسلامة في المدينة <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٥. وسائل الترفيه في المدينة <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أكفائية				
٤٦. وسائل الترفيه في المدينة <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
أمانتها				
القيم الحمالية للمدينة (المظهر، النظافة، التشجير والتنسيق النباتي)				
٤٧. مظهر المدينة <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٨. نظافة المدينة <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
٤٩. التشجير في المدينة <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

س ١٦: فكر في مدينة الرسول (صلي الله عليه وسلم) بشكل عام. كيف تقيس محصله شعورك حول وجودك بها كزائر ؟

(أرجو وضع علامة صح واحد ☐ لكل موضوع)

مرضه جدا	مرضه	محايد	غير مرضه	غير مرضه على
١. محصلة شعوري حول وجودي <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
في مدينة الرسول (صلي الله عليه وسلم) كزائر				

ثالثاً: مقارنه:

س ١٧: بإمكانك ملاحظة التطور الحديث في المنطقة المركزية للمدينة المنورة. على الرغم من أنك لم تعيش في المباني الجديدة، بمقارنة ذلك مع المباني الذي تعيش به الآن، أيهما باعتمادك ما يجب أن يكون النمط المعماري للمدينة المنورة ؟

المبني الذي أعيش به الآن ☐

المباني في التطور الجديد بالمنطقة المركزية ☐

س ١٨: لماذا؟ (اختر أكثر ثلاثة أسباب لأجابتك على السؤال السابق)

لأنها اقرب للحرم النبوي الشريف ☐

لأنها لا تعكس العمارة الاسلاميه ☐

لأنه مبني لا انها مباني مرتفعه ☐

لأنه مبني لا انها مباني منخفضة ☐

اعتقد ان الخدمات افضل ☐

مساحة الغرف ربما أوسع ☐

أسباب أخرى (أرجو ذكرها ☐

س ١٩: من أي بلد إسلامي أنت؟

أنا من (.....)

١	إلى ١٠٠٠ ريال سعودي
٢	من ١٠٠١ إلى ٢٥٠٠ ريال سعودي
٣	من ٢٥٠١ إلى ٥٠٠٠ ريال سعودي
٤	من ٥٠٠١ إلى ٧٥٠٠ ريال سعودي
٥	من ٧٥٠١ إلى ١٠٠٠٠ ريال سعودي
٦	أكثر من ١٠٠٠٠ ريال سعودي

س ٢٥: إذا كان لديك أي ملاحظات تريد إضافتها. لك مطلق الحرية بذكرها في المكان التالي:

[illegible]

۳ سنه ۴۰-۳۱	۲ سنه ۳۰-۲۱	۱ سنه ۲۰ من اقل
۶ سن ۶۰ اكثر من	۵ سنه ۶۰-۵۱	۴ سنه ۵۰-۴۱

طالب _____ 5 عمل آخري (.....)
موظف لحسابي الخاص. 1 موظف _____ 2 لا اعمل _____ 3 متقاعد _____ 4

أَمْي (لا أستطيع القراءة أو الكتابة)	1
أستطيع القراءة أو الكتابة	2
أحمل شهادة الابتدائية أو ما يعادلها	3
أحمل شهادة المتوسطة أو ما يعادلها	4
أحمل شهادة الثانوية أو ما يعادلها	5
أحمل شهادة كلية أو ما يعادلها	6
أحمل شهادة جامعيه أو ما يعادلها	7

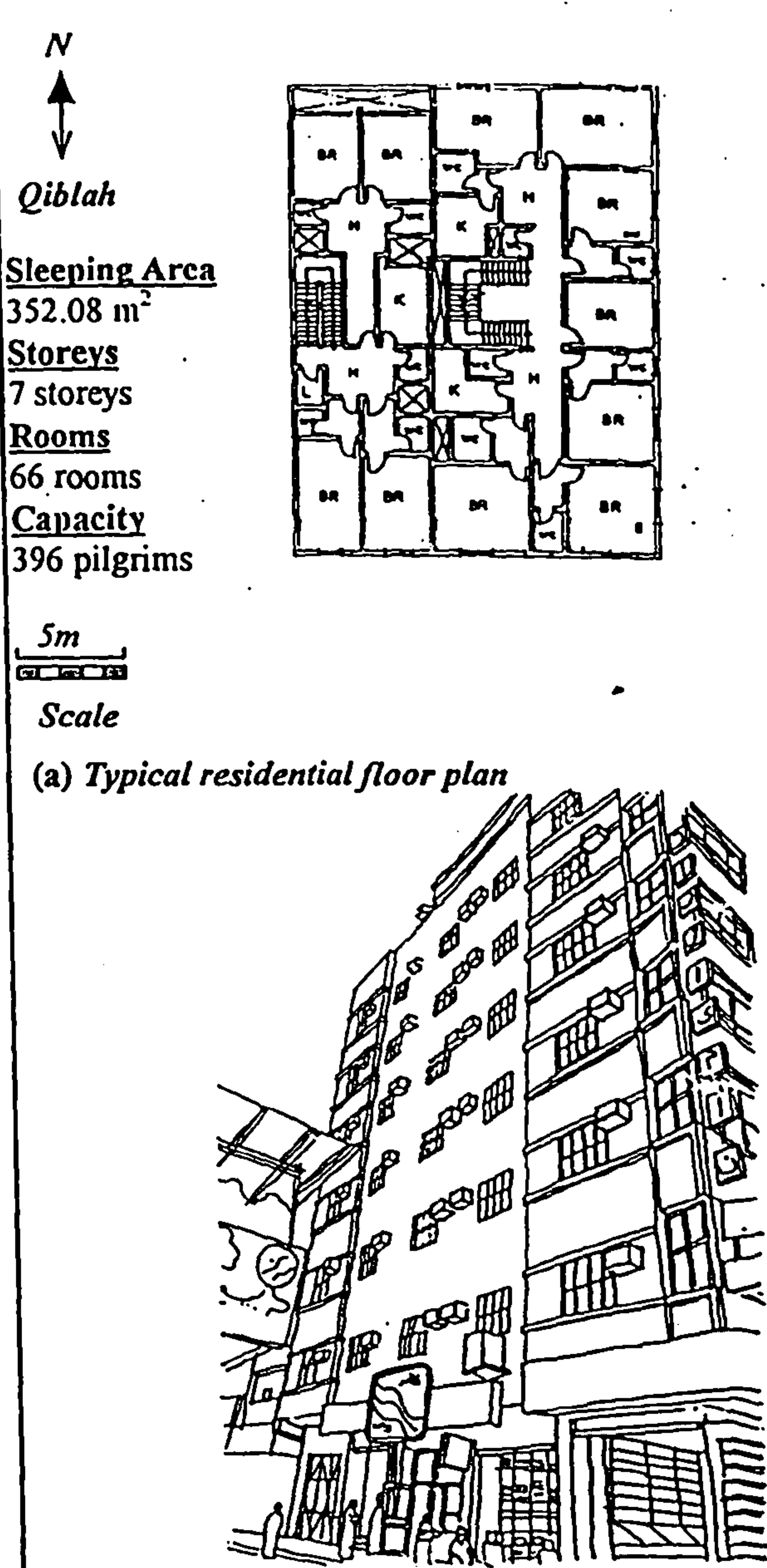
متزوج اعزب ☐ خابط او مطلق ☐

Appendix **C** **Visual Analysis of the General Accommodation Characteristics**

S.1 Building Number 1/1&2*

Building No. 1/1&2 “Dar Al Iman” is a commercial/ residential building. The ground floor is used mainly for shops while the other floors are designed for housing purposes. The typical plan of a residential floor (a) shows that it has been divided into two parts served by separate staircase. Each of those parts has been further divided into mostly symmetrical section divided into a number of bedrooms which are rented on an individual basis (c). Therefore, most of the rooms have a bathroom while they can share the nearest kitchen which is furnished with a hot plate and drinking water fountain (d). There are many kitchens and toilets in the building, so there are several shaft for both ventilation and natural lighting. The main elevation is characterised by square windows with glass inside and wooden louvers outside (b).

Fig C.1

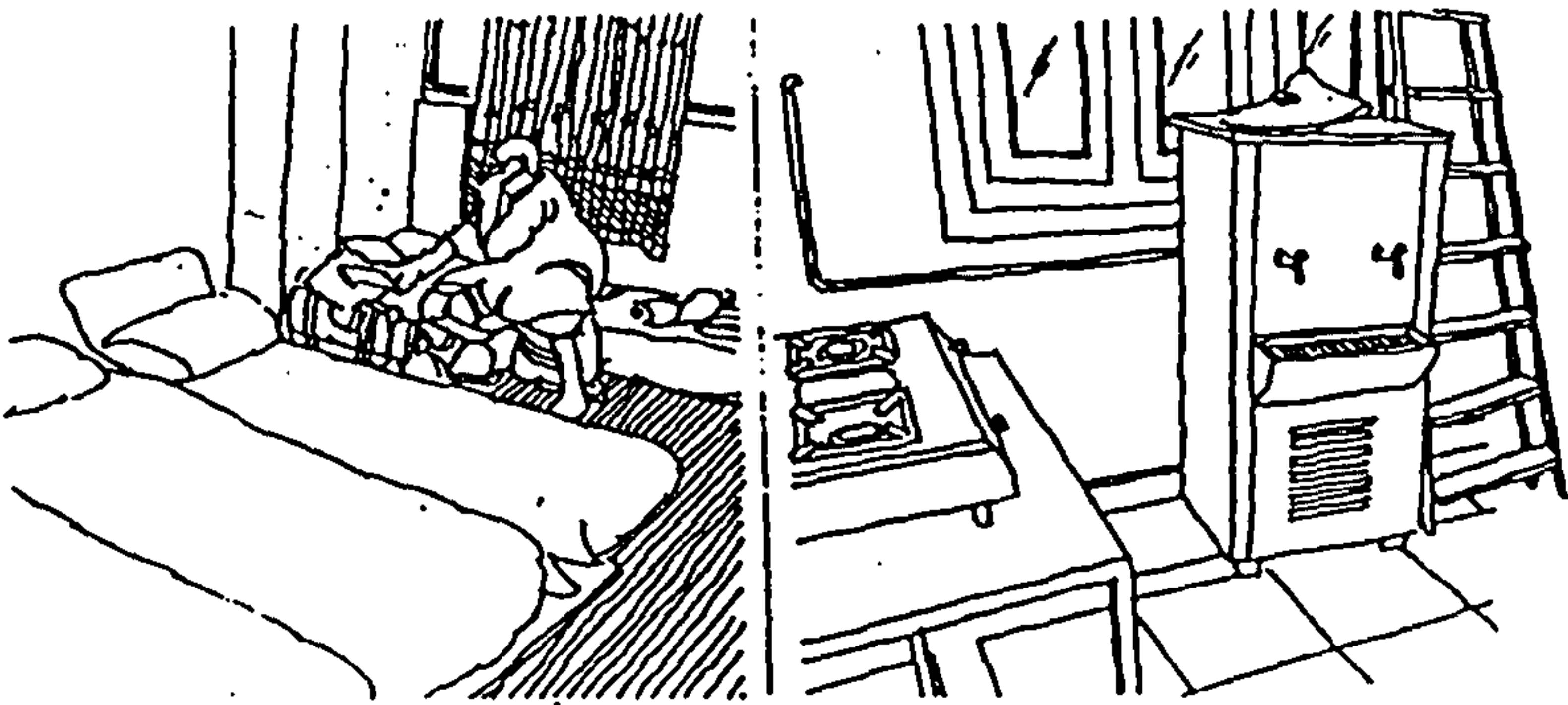


Sleeping Area
352.08 m²
Storeys
7 storeys
Rooms
66 rooms
Capacity
396 pilgrims

5m
Scale

(a) Typical residential floor plan

(b) Building exterior view



(c) Typical bedroom

(d) Typical kitchen

Buildings Plans General Key:

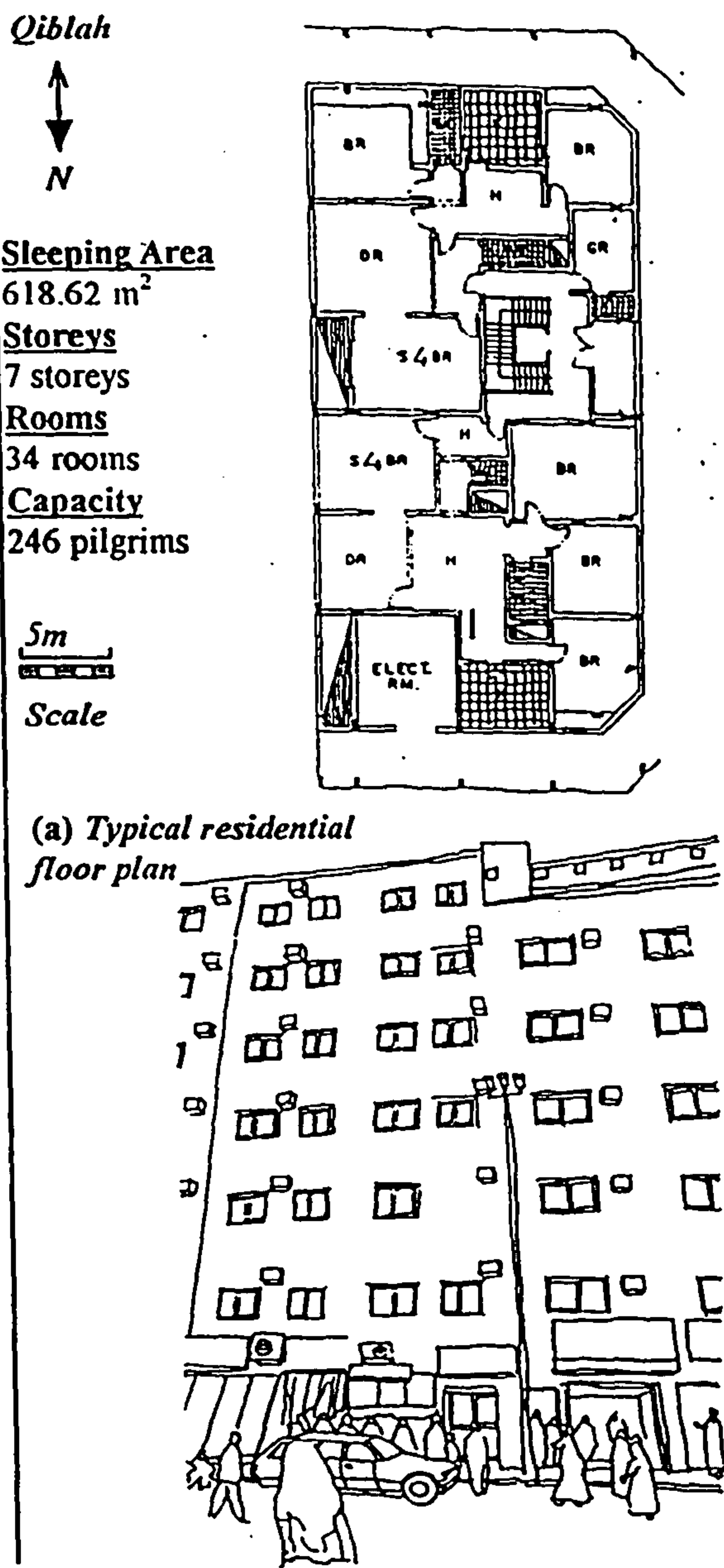
- S = Sitting room
- WS = Women's sitting room
- MS = Men's Sitting room
- L R = Living room
- DR = Dining room
- BR = Bedroom
- H = Hall
- K = Kitchen
- WC = Bathroom
- ENT = Main entrance
- GR = Guard or caretaker room
- BL = Balcony
- EL = Electrical room
- RC = Reception
- ↔ = Room has been changed to

* S. No. = The Sample Number
2/1&2= Building No. / Area No380

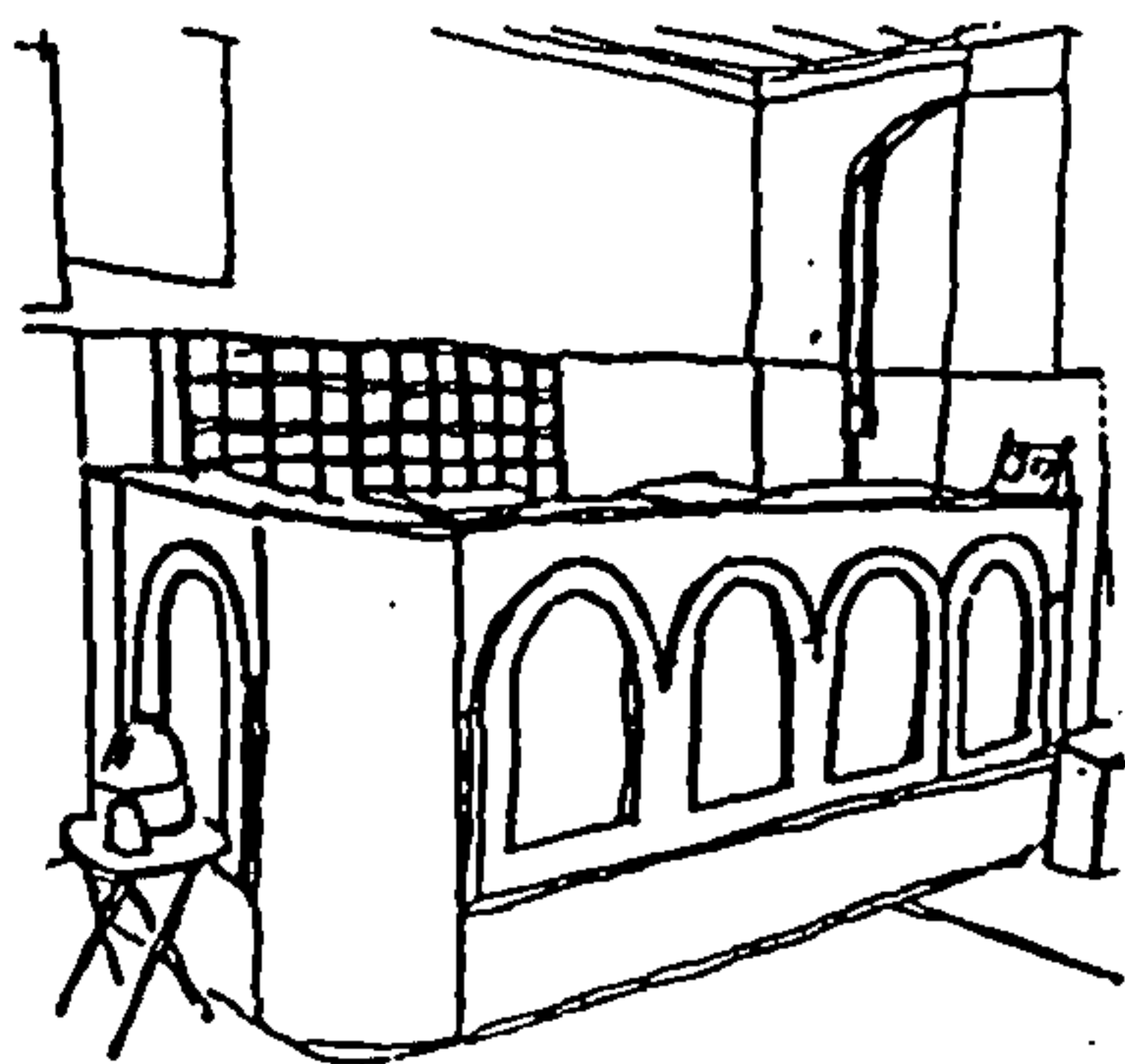
S.2 Building Number 2/1&2

Building No. 2/1&2 “Al Safa Palace” is a commercial/ residential building. The typical layout of the six upper storeys originally contained two apartments. Each of these apartments consist of two sections: 1) the men’s quarters (the men’s sitting room, dining room and bathroom) and 2) the family quarters (3 bedrooms, kitchen, hall and toilet). According to the furniture observed during the field work, all the sitting rooms and dining rooms have been changed to bedrooms. Consequently, all the rooms were furnished with sleeping-cushions and rented as individual bedrooms rather than apartments (d). These cushions were mostly used as occasional relatively cheap beds which are easy to move and stored after use (e). The building is characterised by simple elevation, yet affected visually by the window air- conditioning units (b).

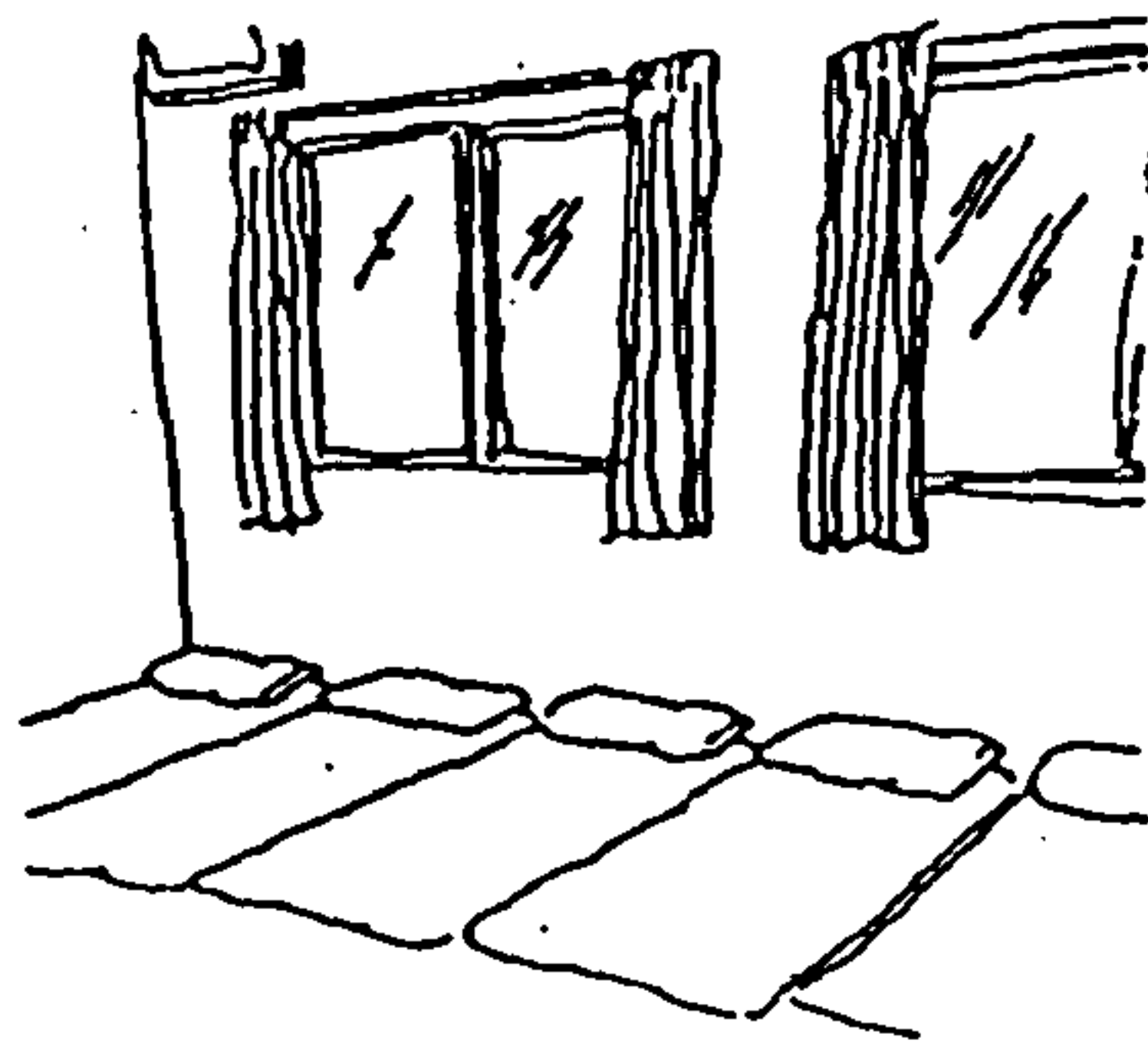
Fig C.2



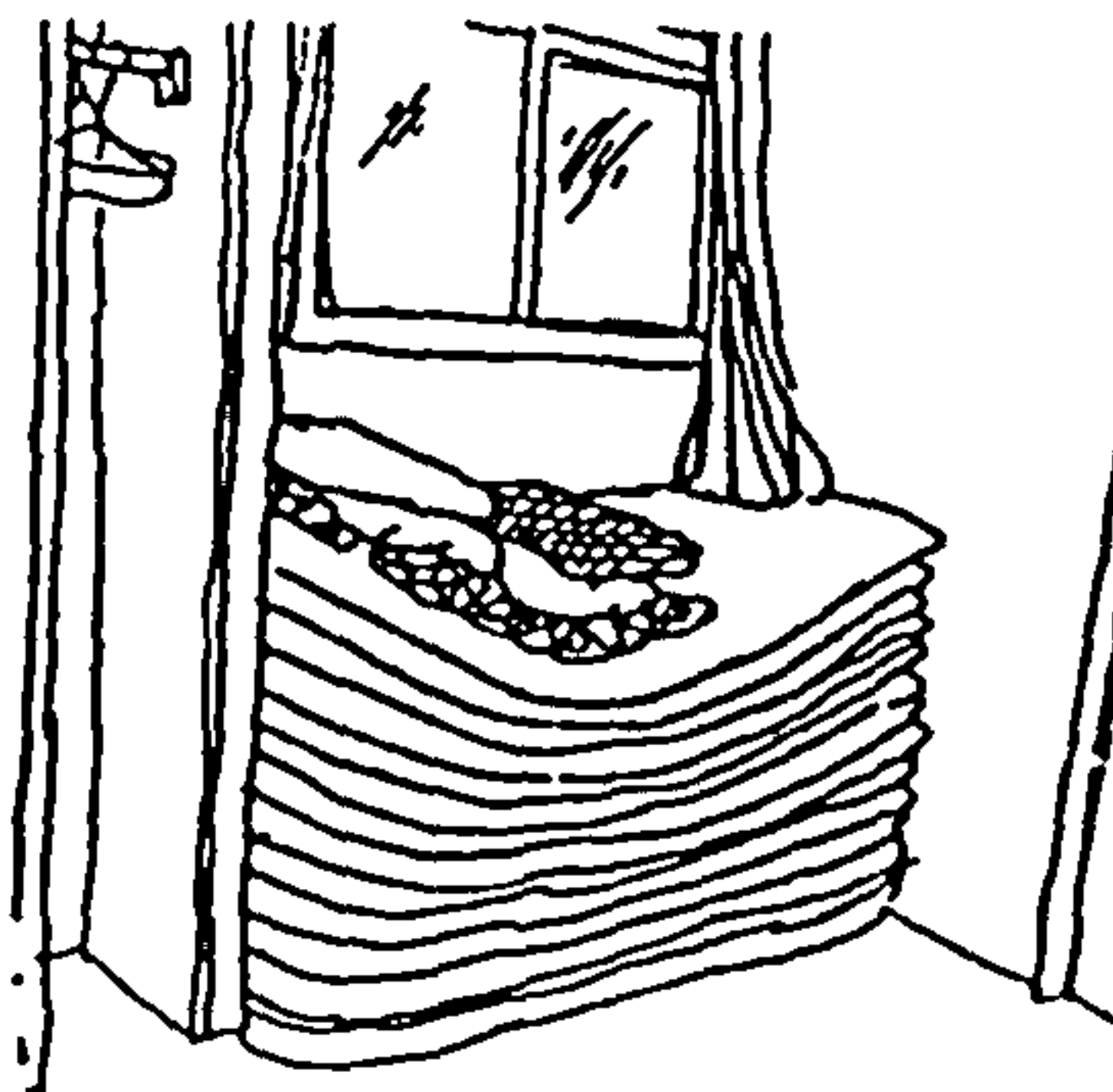
(b) Building exterior view



(c) Reception area



(d) Typical bedroom

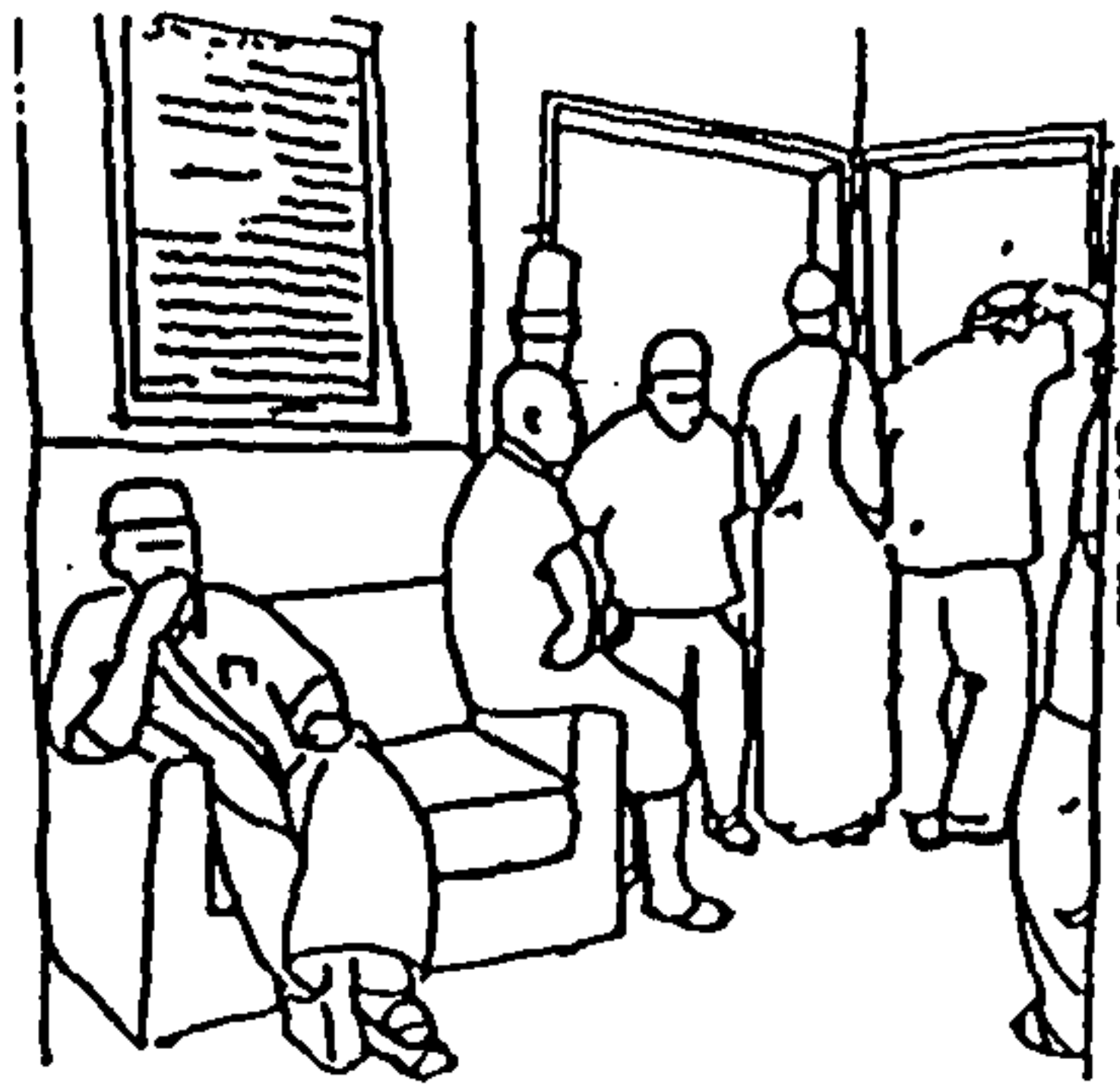
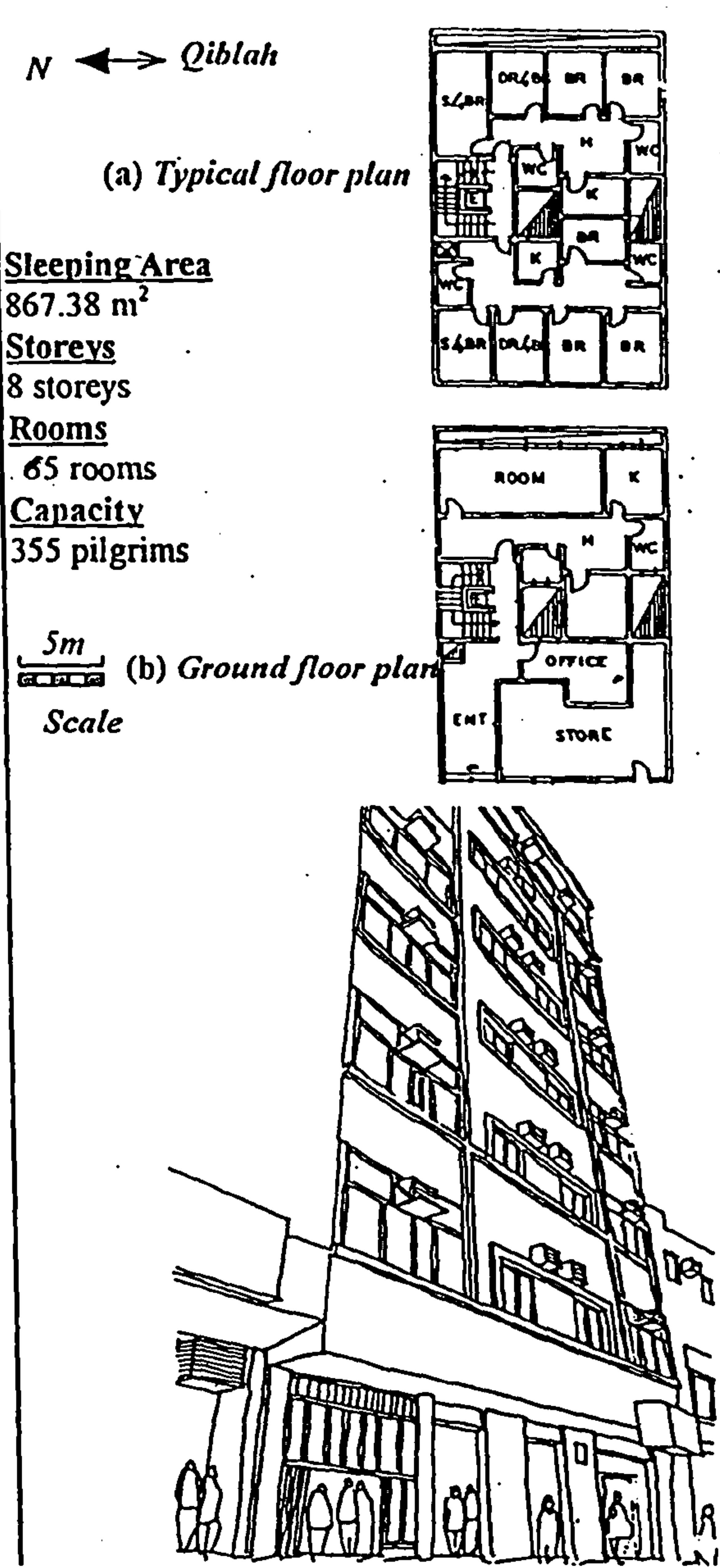


(e) storing of the
sleeping-cushions

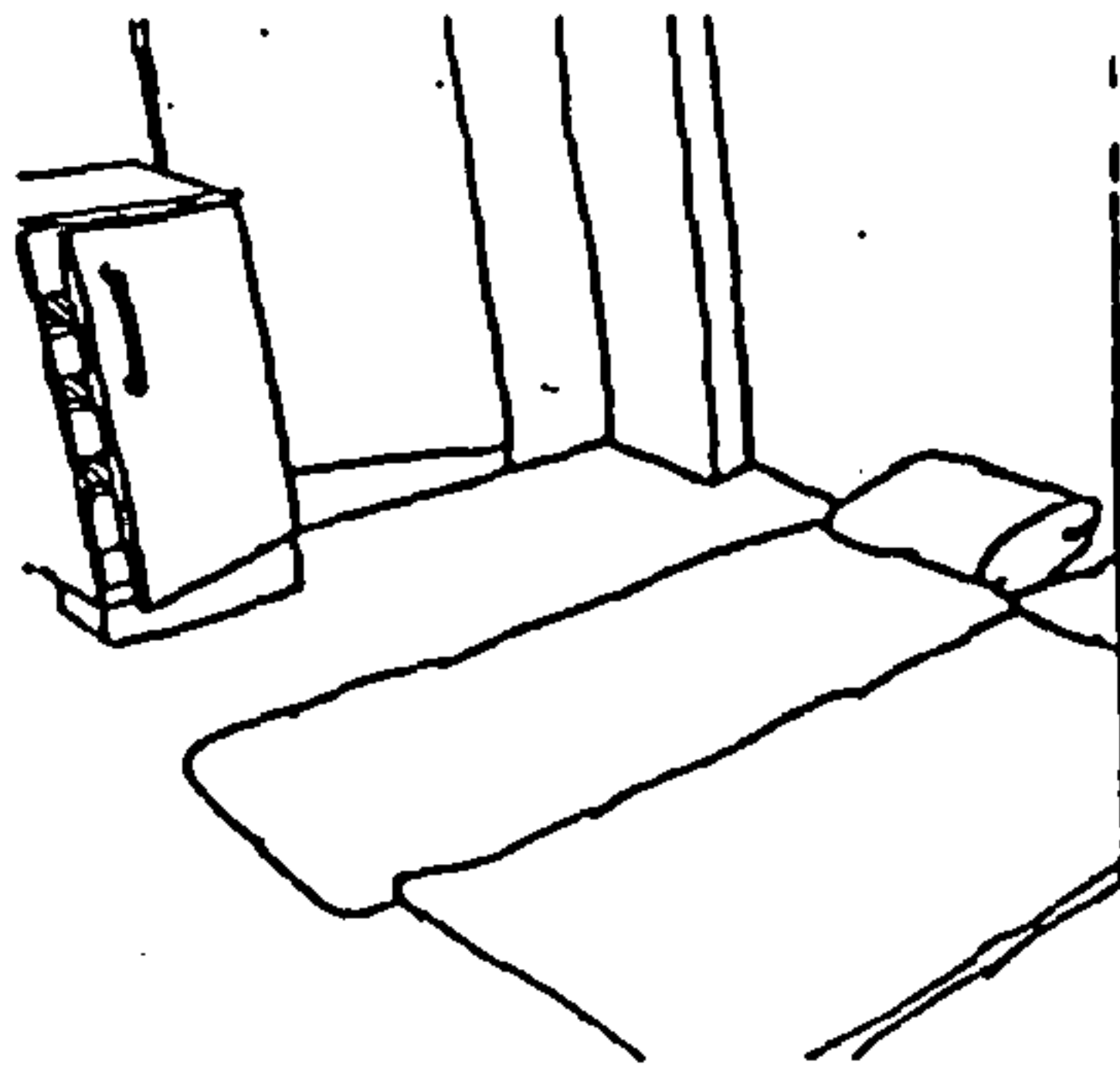
S.3 Building Number 3/1&2

Building No. 3/1&2 “Goharat Al Annabia” is a commercial/residential building. The ground floor is mainly used for commercial activity (b), while the rest of the floors are for residential use. These floors which are rectangular in shape, were originally divided into two identical apartments, each consisting of a sitting room, dining room, 2 bedrooms, 2 toilets and a kitchen (a). However, the sitting rooms and the dining rooms were changed to bedrooms and furnished like the others with sleeping-cushions to accommodate more pilgrims. Actually, that leads to adding exposed plumbing in both the toilets and kitchens which affects the aesthetic value of the interior. The exterior which is plastered and painted is characterised by the window air-conditioning unit above the aluminium windows (c).

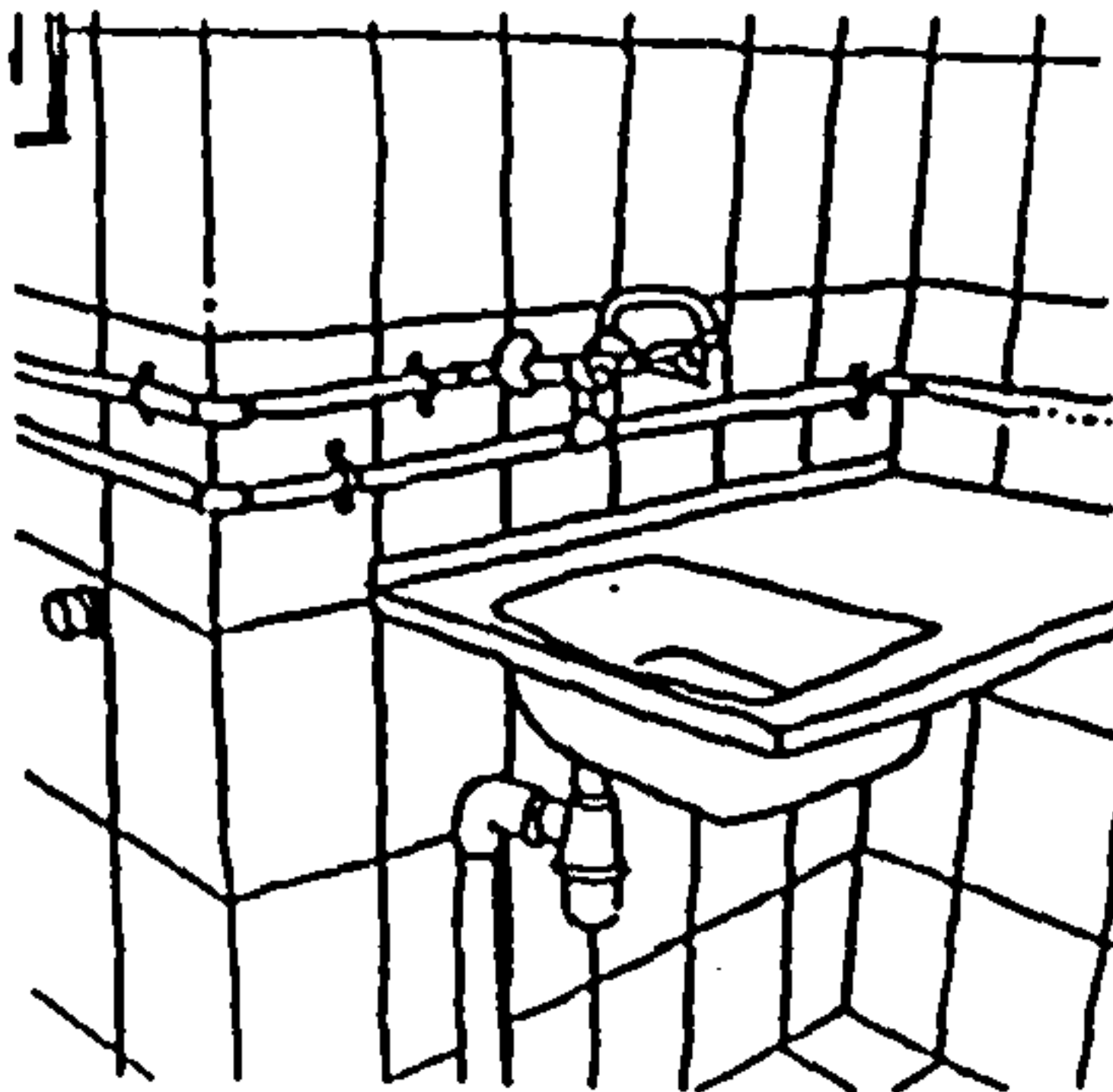
Fig C.3



(d) Reception area



(e) Typical bedroom

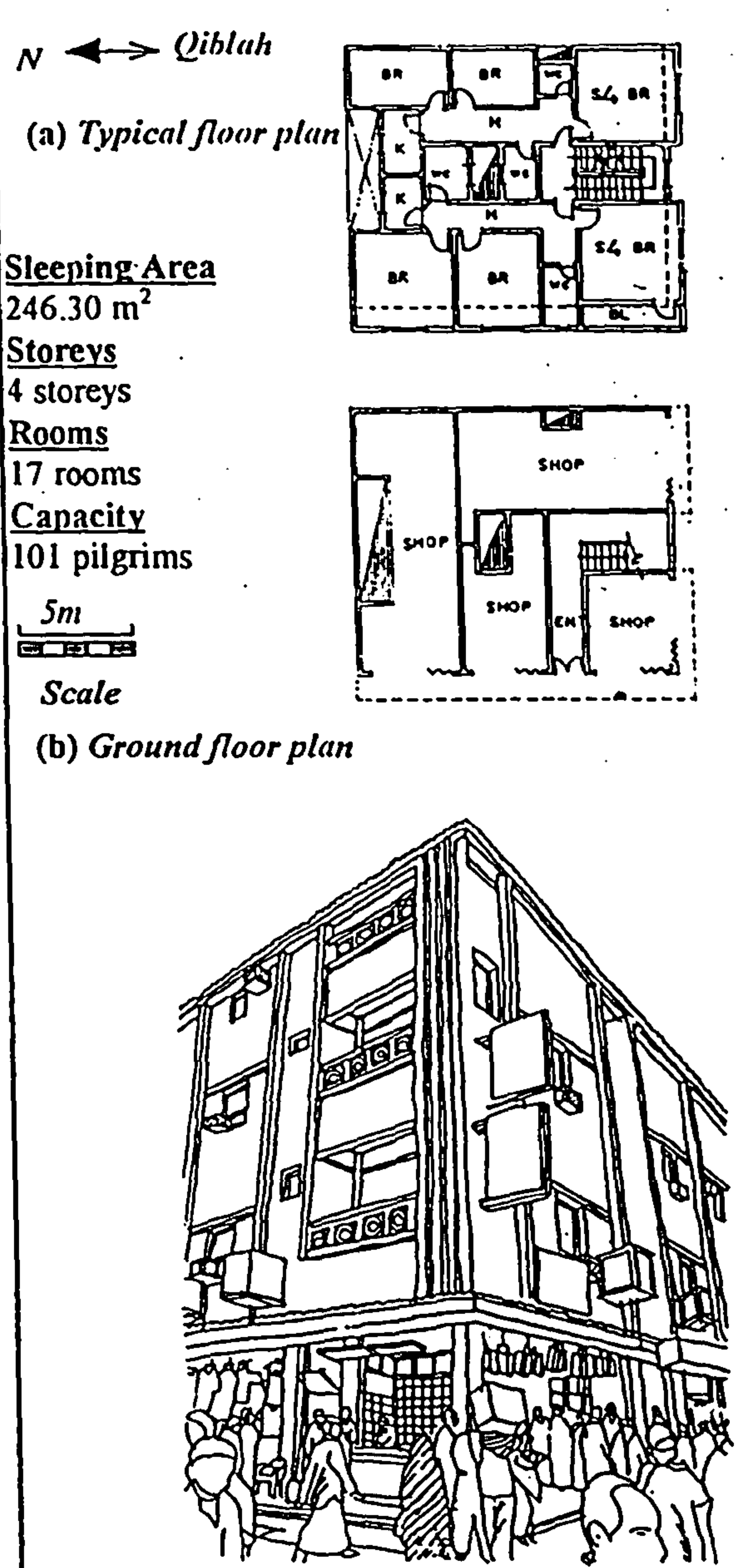


(f) Typical kitchen -
exposed plumbing

S.4 Building Number 4/1&2

Building No. 4/1&2 “Dar Abdulaziz” is a commercial residential building. As with most buildings of this type, the ground floor is occupied by individual shops and the three upper floors are kept for residential use (a, b). Each of the residential floors was designed, as two apartments. Each of them contained a sitting room, two bedrooms, a small kitchen (f), and two bathrooms (e). The bedrooms and the sitting rooms were furnished with sleeping-cushions. The shortage of storage and clothes cupboards led to the use of the narrow corridors as storage space (d) as well as to the hanging of pilgrims’ clothes in the windows and air-conditioning frames (e). The gypsum decoration which is used on the front balconies enhances the external facade, yet the use of different sizes of window air-conditioning units affects the elevation.

Fig C.4



(c) Building exterior view



(d) Reception area - used
as storage space

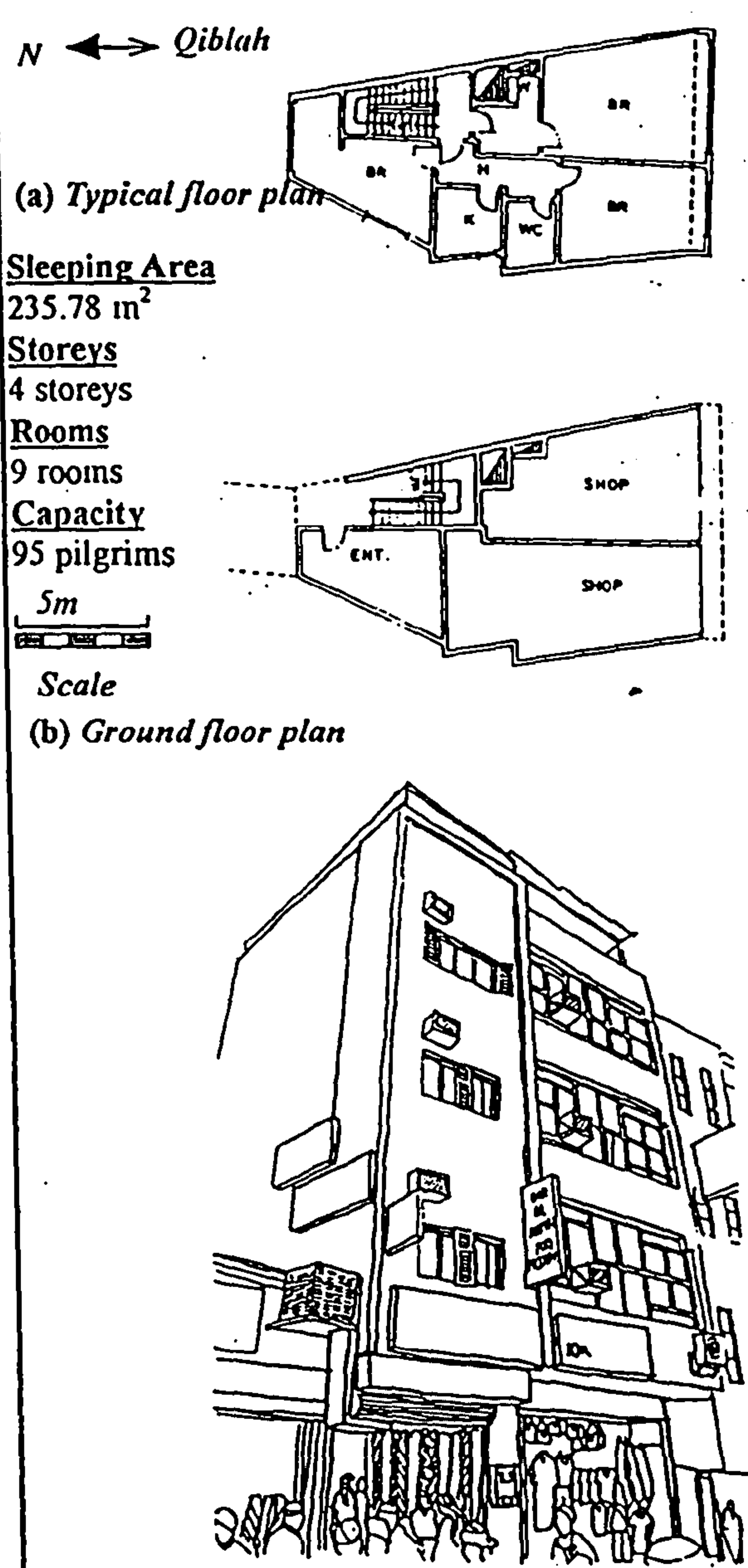
(e) Typical bedroom

(f) Typical kitchen

S.5 Building Number 5/1&2

Building No. 5/1&2 “Dar Al Fateh” is a 4 storey commercial/residential building. Most of the ground floor is used for commercial activities while the rest is left for the entrance, the stair case and the small reception corner. Each of the three residential floors is divided into two apartments, one contains one bedroom and water closet, the other includes two bedrooms, small kitchen and toilet. Yet the two apartments are kept open to each other, therefore, all the residents will have access to both the kitchen and the toilet. Both the plan (a) and the elevation (c) show that the building originally contained balconies which have been incorporated into the bedrooms to increase their area and capacity. The shortage of storage forces the pilgrims to use both the bedrooms and kitchen as a safe area for their luggage.

Fig C.5



(a) Typical floor plan

Sleeping Area

235.78 m²

Storeys

4 storeys

Rooms

9 rooms

Capacity

95 pilgrims

5m

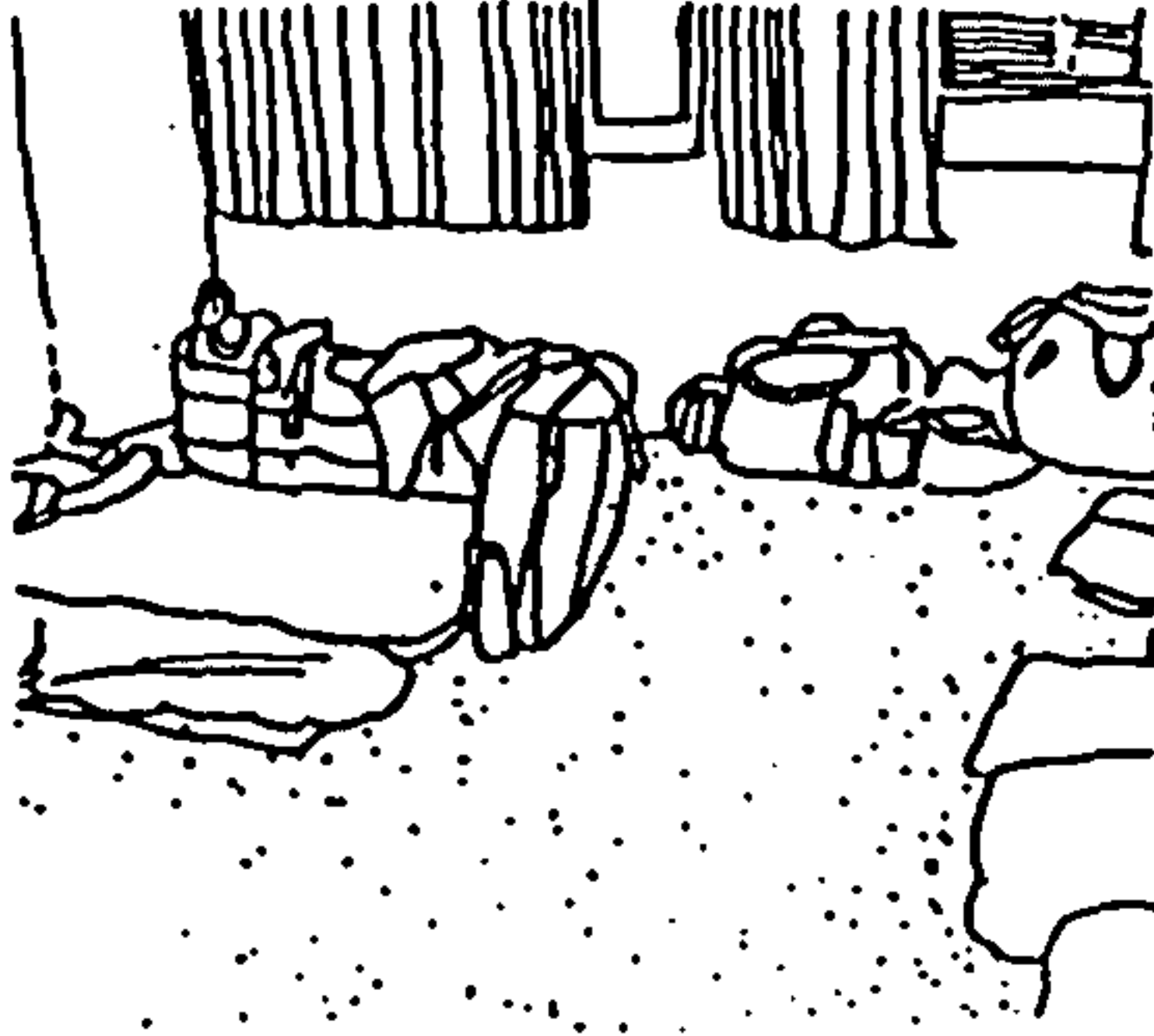
Scale

(b) Ground floor plan

(c) Building exterior view



(d) Reception area



(e) Typical bedroom

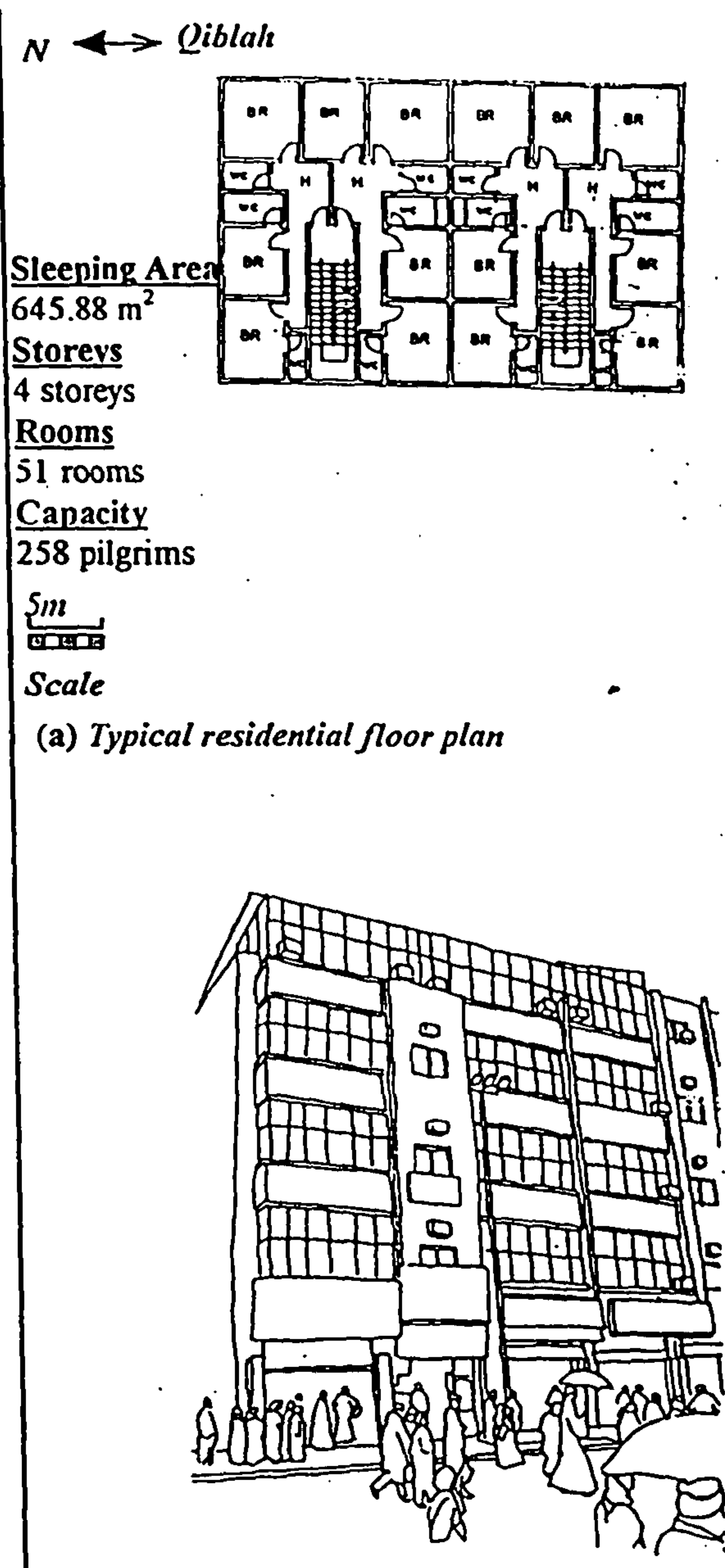


(f) Typical kitchen

S.6 Building Number 6/1&2

Building No. 6/1&2 “Ba faqih Palace” is a 4 storey commercial /residential building. An extension floor which is roofed by corrugated iron sheets was built to increase the capacity. The original layout of the typical residential floors reflected the duplex plan where each wing was served by a separate staircase. Each of these wings was divided into two apartments. The rooms either contain a bathroom or shared one with another room (a). Since the building houses a restaurant with service kitchen (d) none of the apartments include any cooking space which shows that the rooms are rented ,like a hotel, on an individual basis. The bedrooms are provided with T.V. and telephone (e). Although, the extensive use of glass in the front elevation provides a good natural light, it increases the temperature inside the building (b).

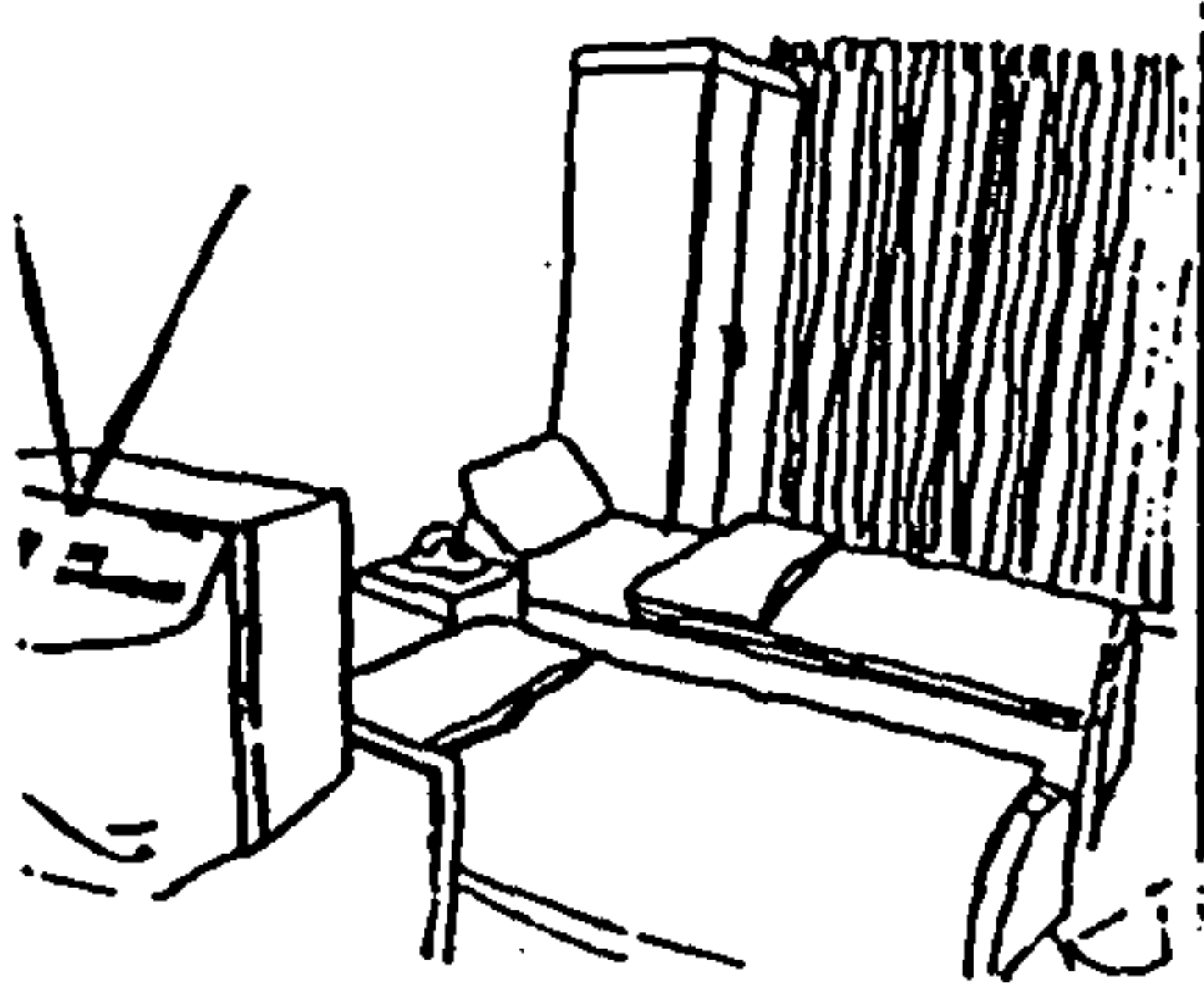
Fig C.6



(b) Building exterior view



(c) Reception area



(d) Typical bedroom

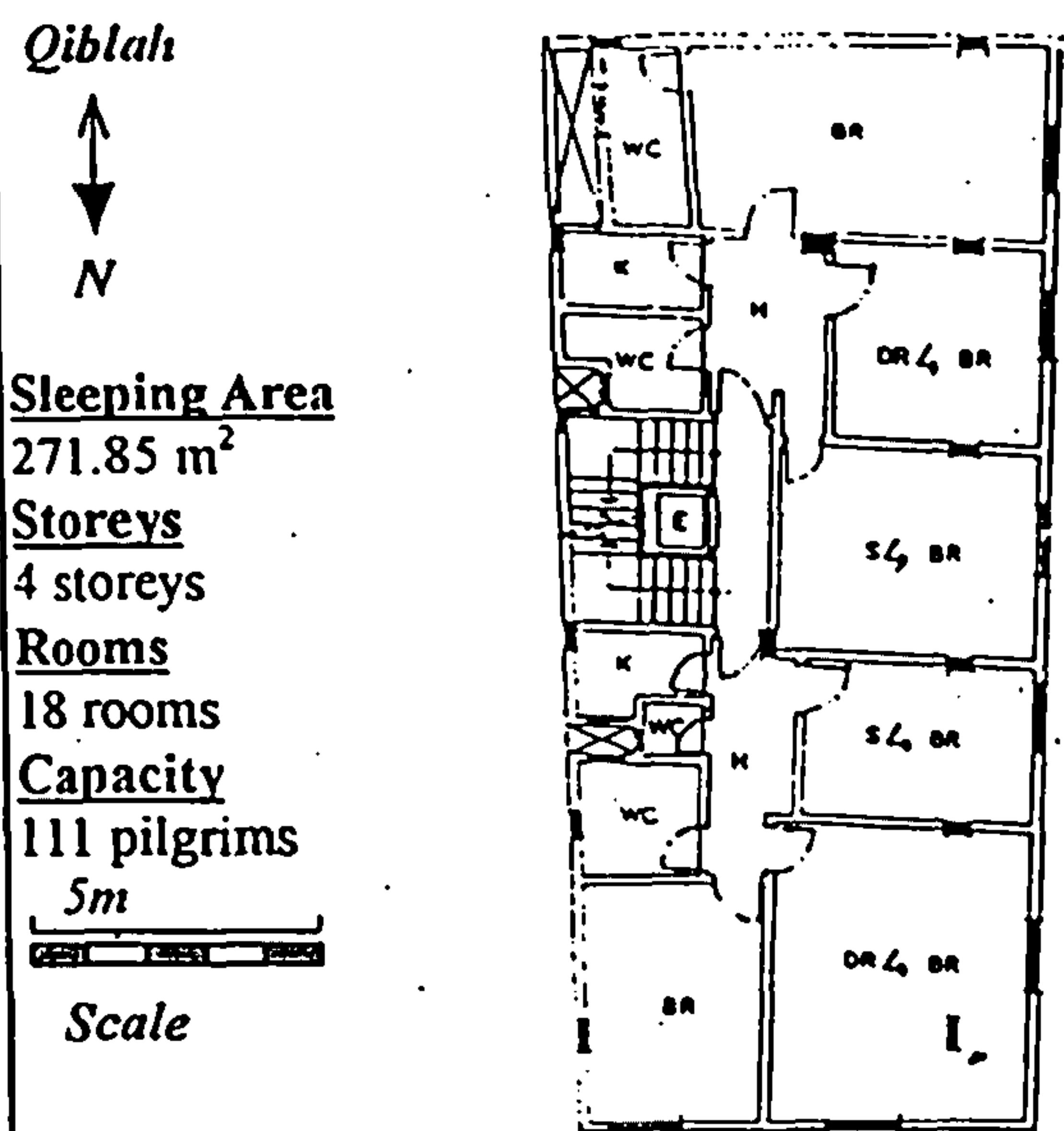


(e) Restaurant's service kitchen

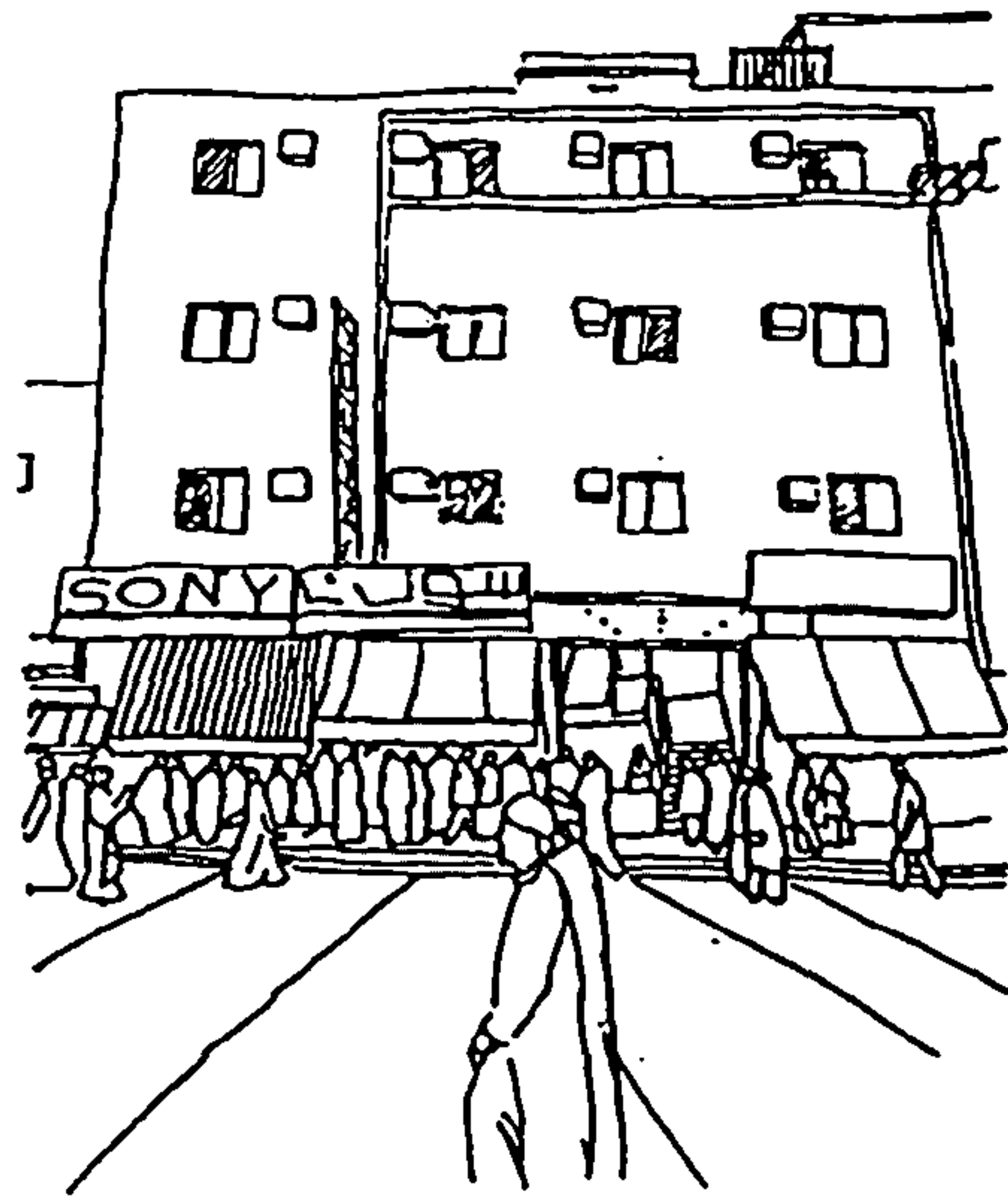
S.7 Building Number 7/1&2

Building No: 7/1&2 “ Al Rami Palace” consists of one commercial floor and three residential floors. The residential floors are divided into two apartments each consisting of sitting room, dining room, one bedroom, small kitchen and two bathrooms. All the bedrooms are furnished with single beds (e), carpet and curtains. The building also contains a good reception area (c) and an Arabic sitting room (d), which has also been used by some pilgrims for short naps. The front elevation of the building is characterised by the simple form of square aluminium windows and window air-conditioning, units which reflect the number of rooms from outside. Moreover, as it is in a commercial street, advertising signs cover part of the elevation (b).

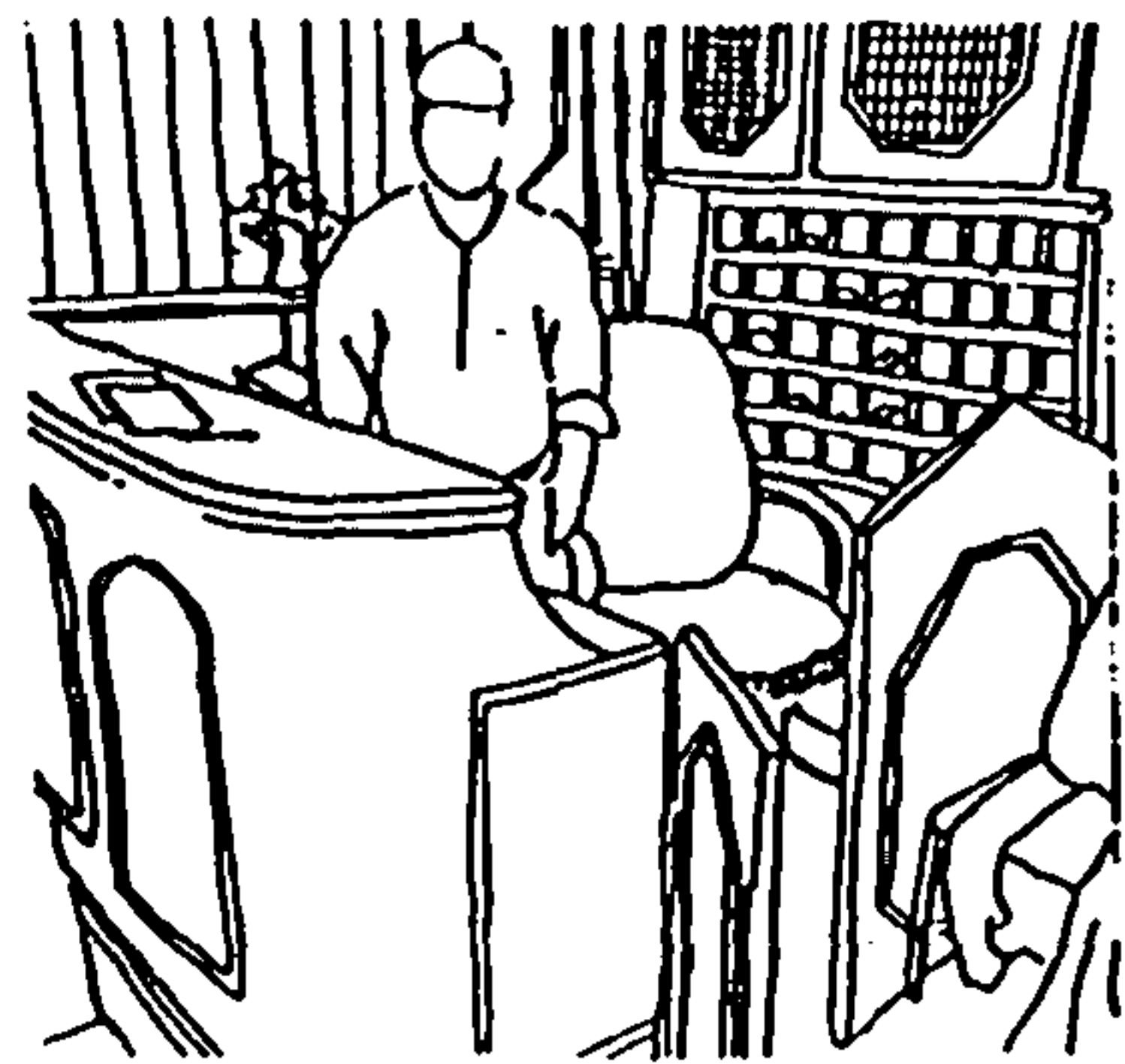
Fig C.7



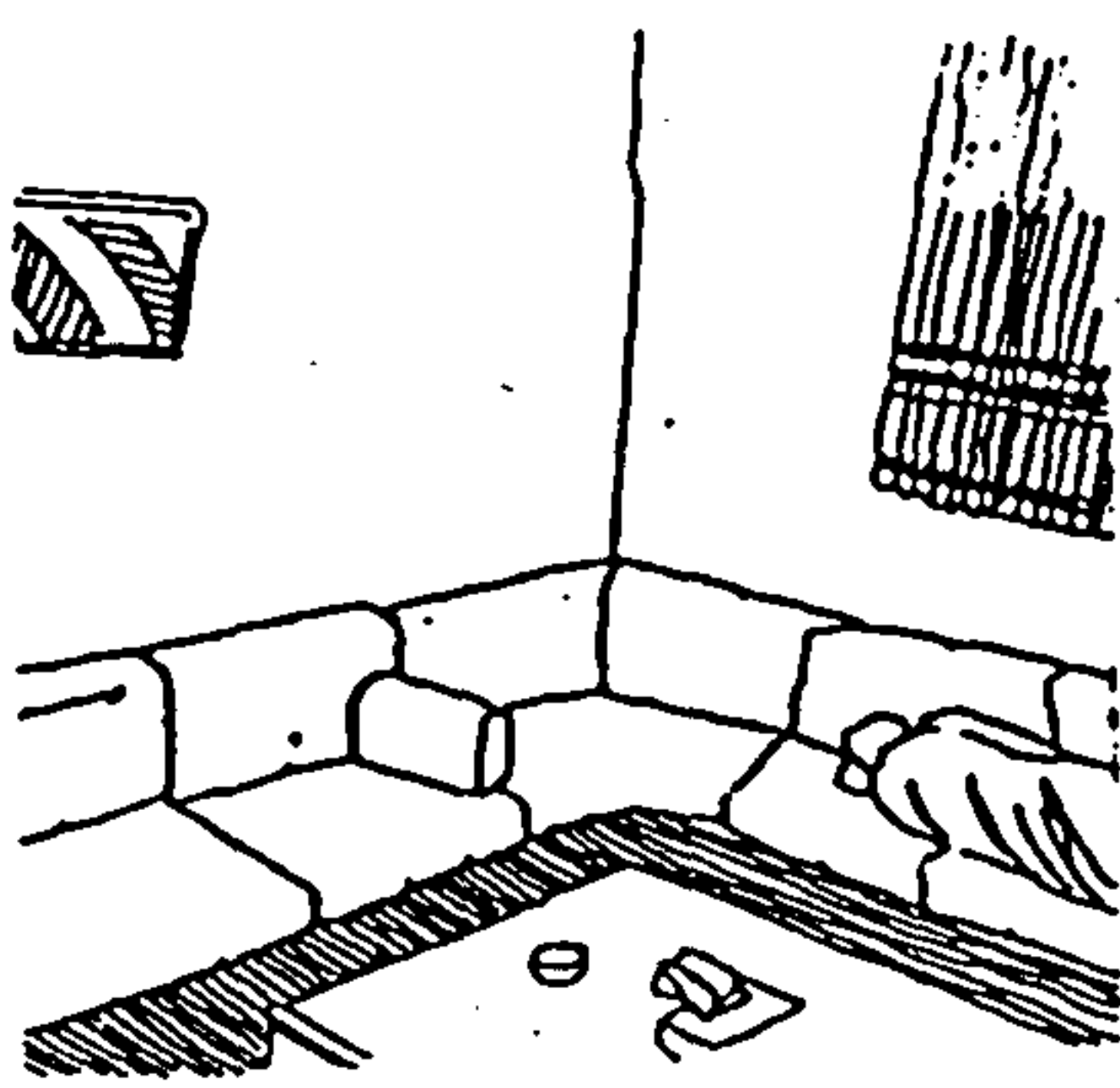
(a) Typical residential floor plan



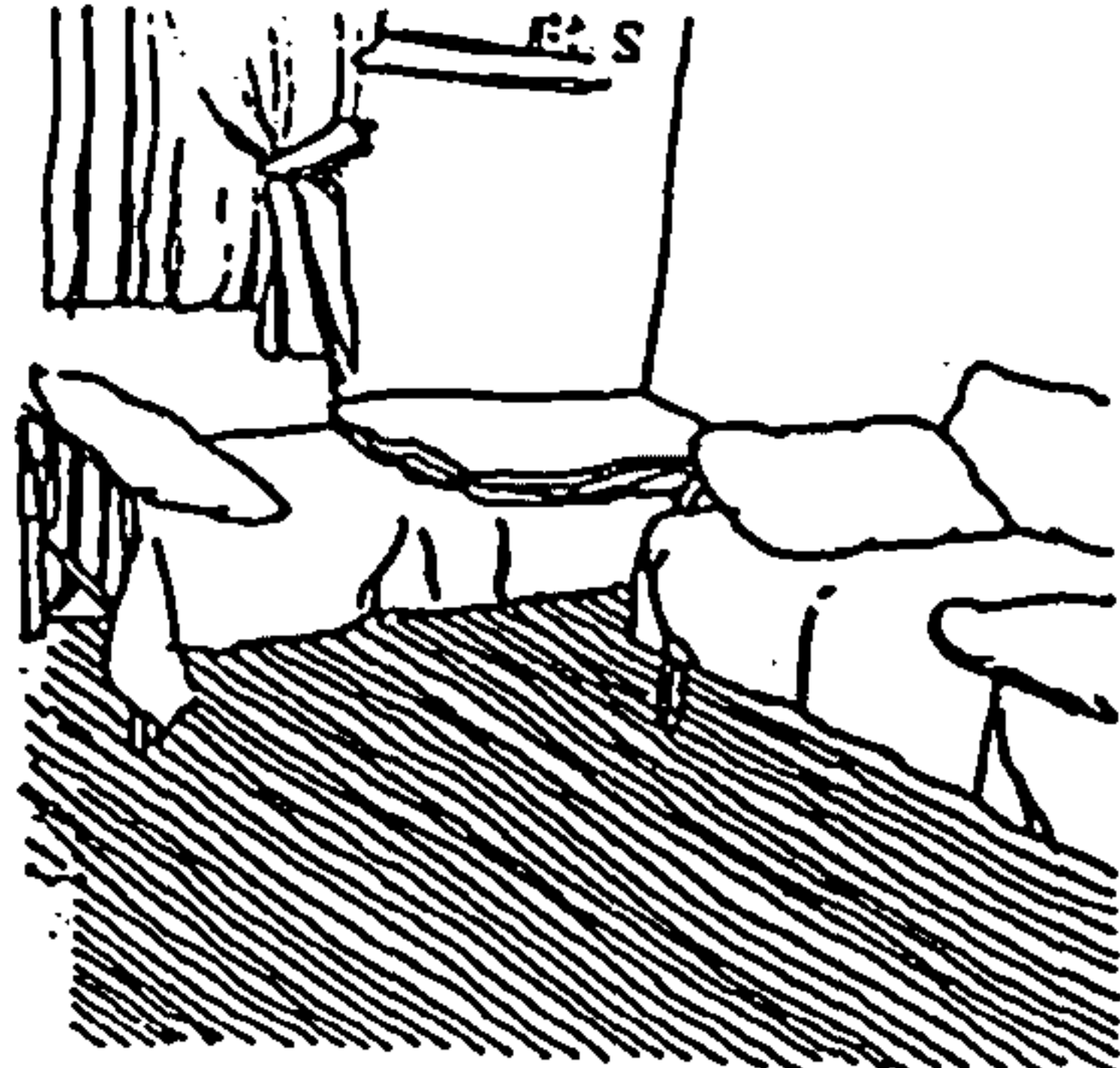
(b) Building exterior view



(c) Reception area



(d) Common Arabic
sitting Room

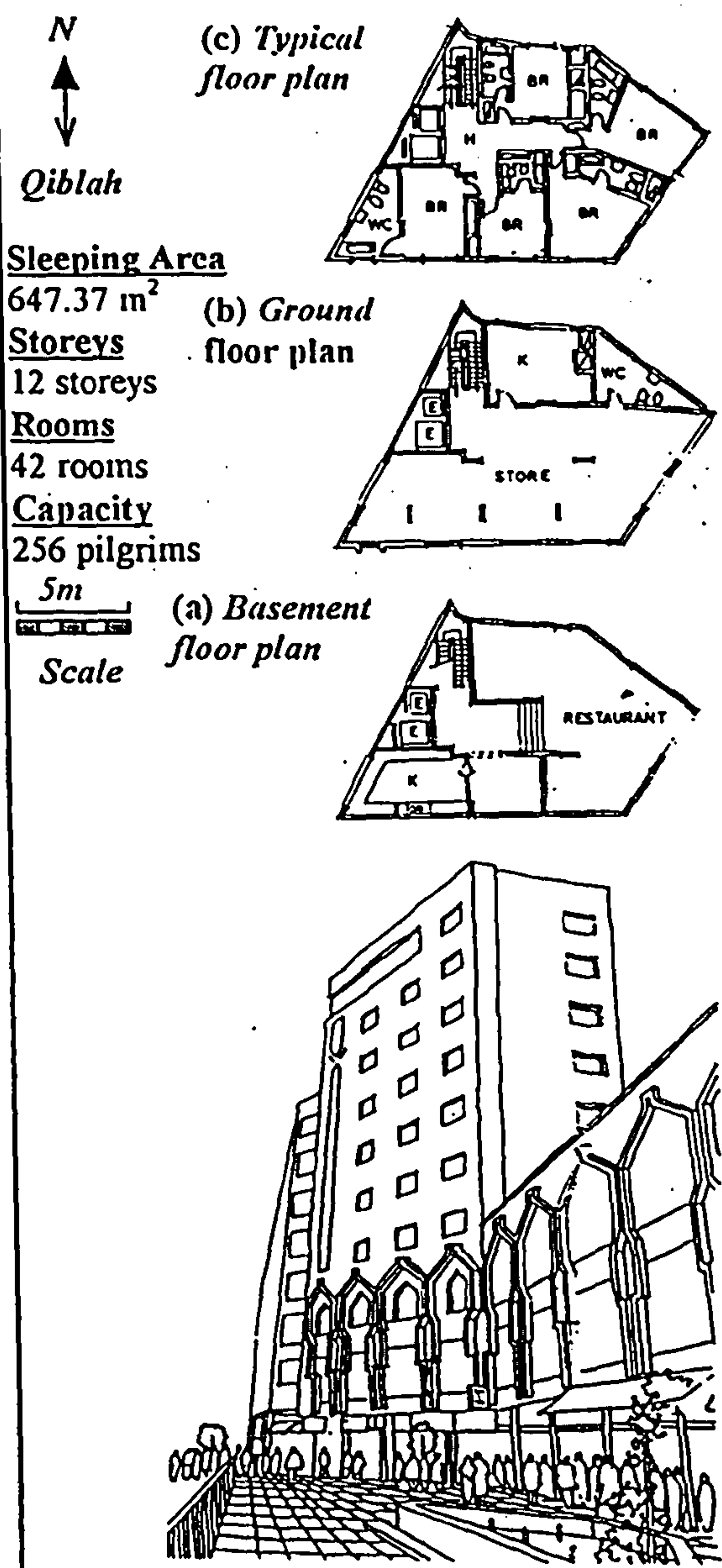


(e) Typical bedroom

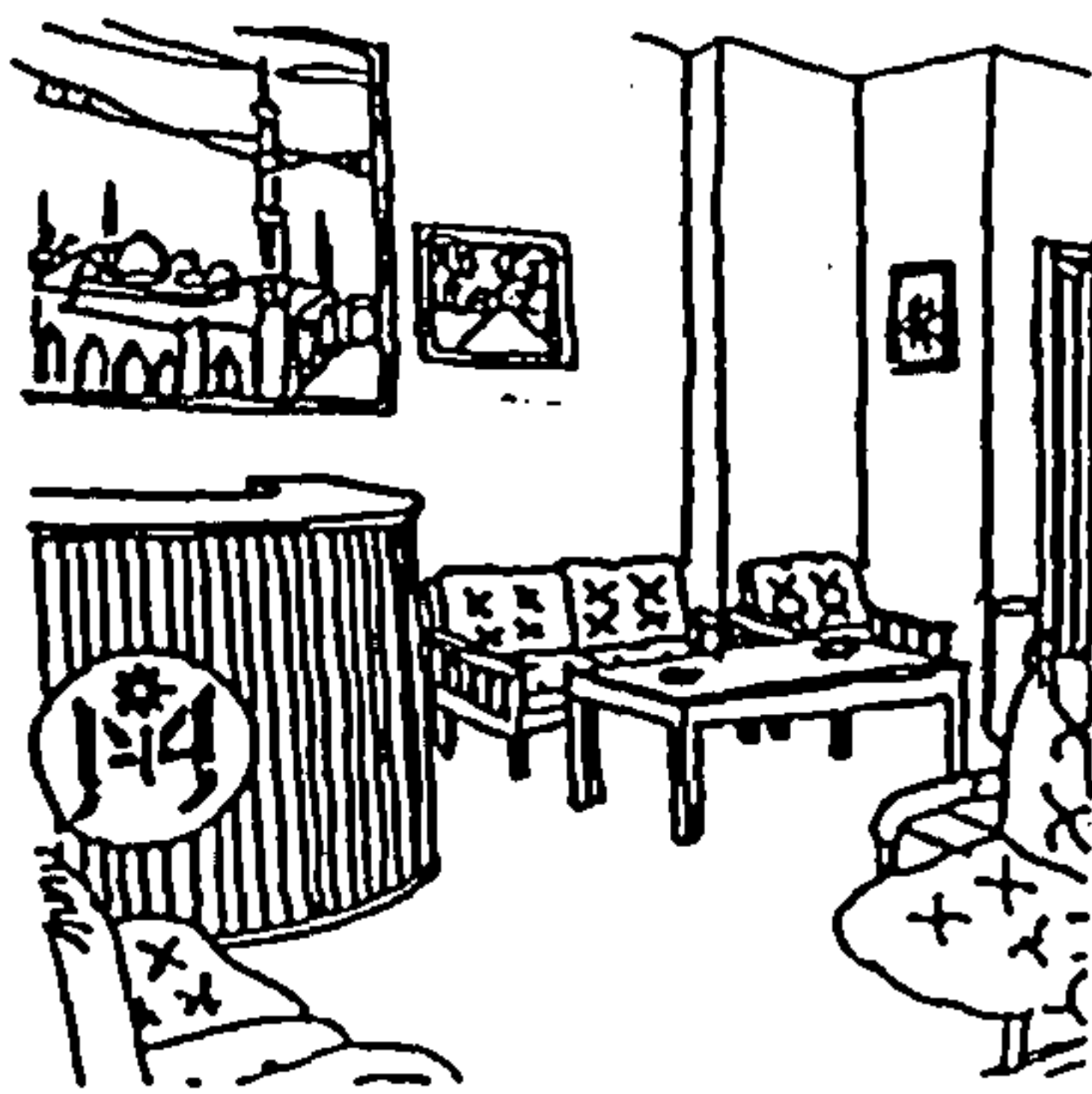
S.8 Building Number 8/1&2

Building No. 8/A1&2 “Wardat Al Madina” is a 12 story residential / commercial building located about 100 m from Al Haram. The building which covers an area of 647.37 m² accommodated 256 Pilgrims. The basement floor contains restaurant and common kitchen (a), while the ground and mezzanine floors are for commercial activities (b). The remaining storeys are for residential use (c). Each of the residential floors contains 4 bedrooms each with a toilet. The rooms which vary in size are furnished with two beds, carpet, curtains, refrigerator and telephone. The building which contains a good reception area is also provided with two lifts and a staircase. Finally, the main elevation which faces Al Baky Cemetery is covered with marble while the windows are aluminium (d).

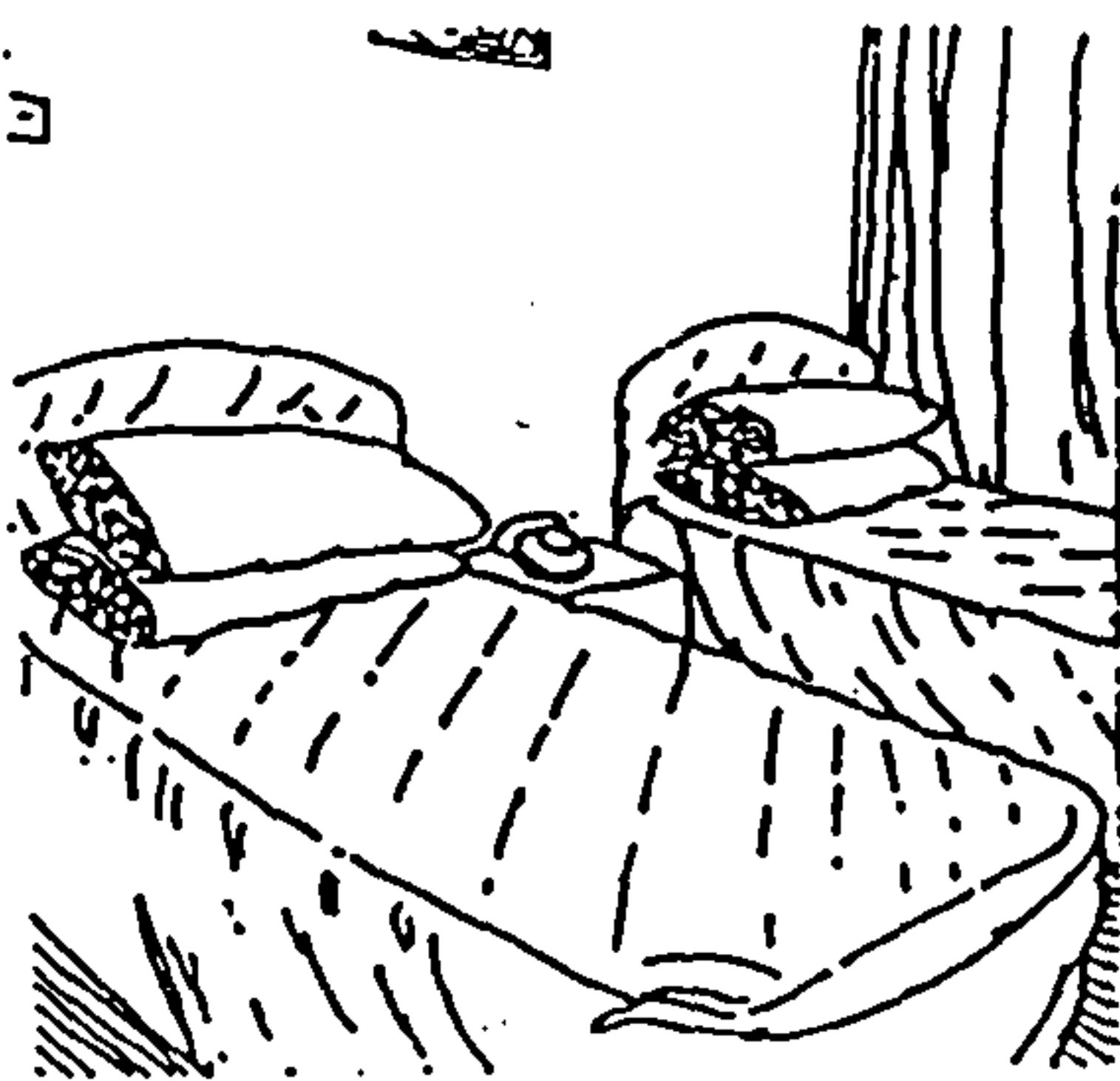
Fig C.8



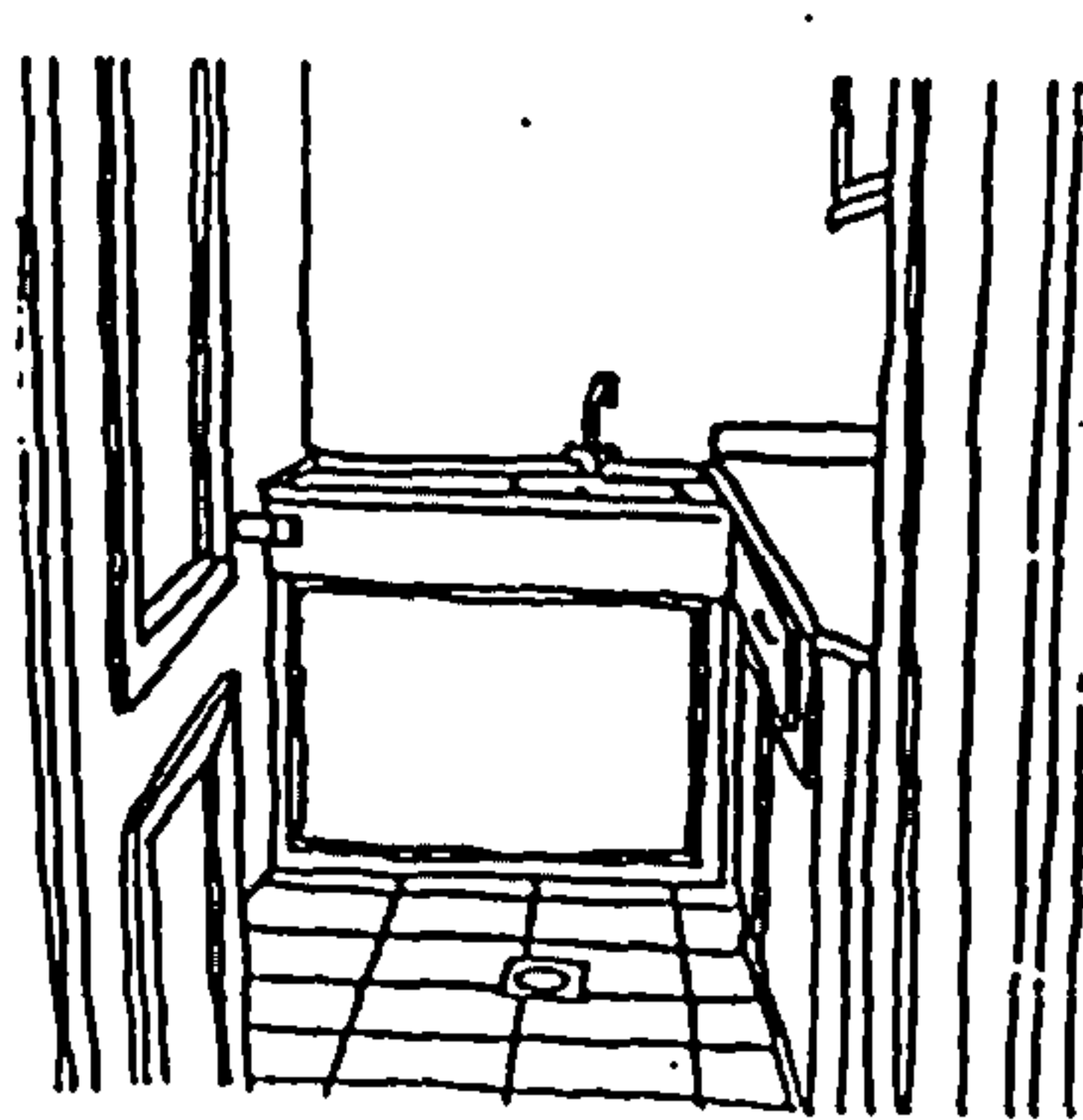
(d) Building exterior view



(c) Reception area



(f) Typical bedroom

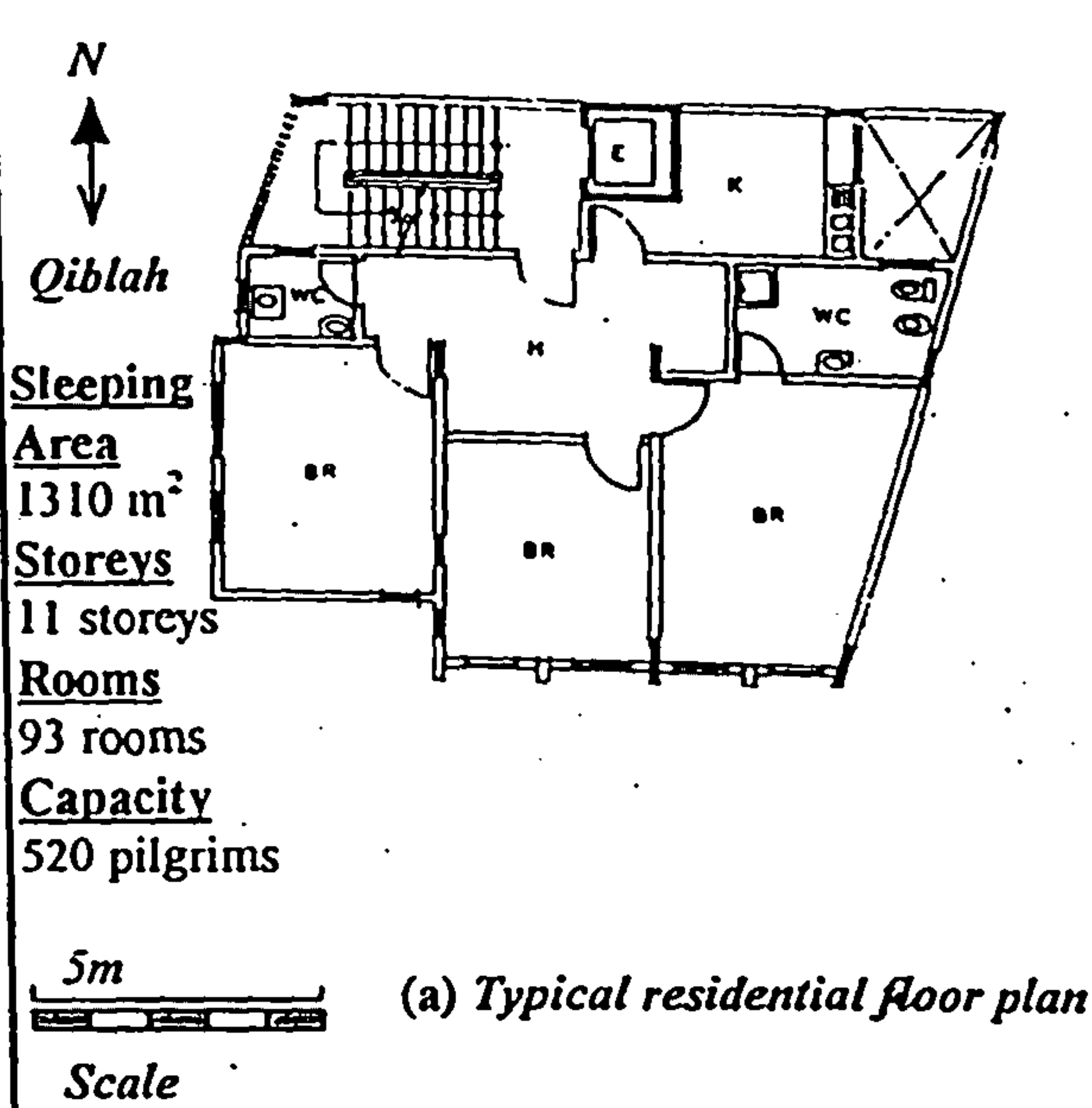


(g) The kitchen

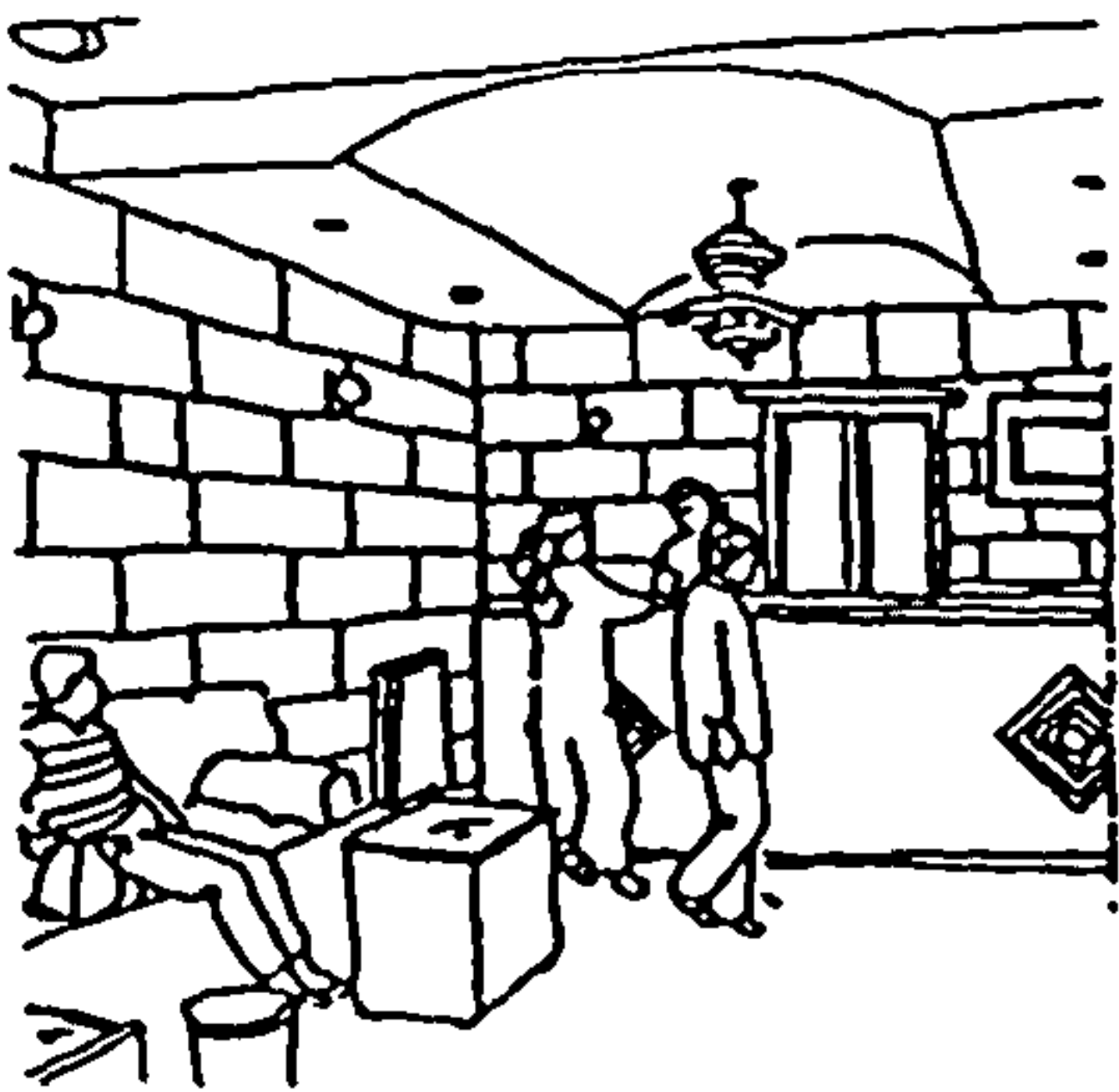
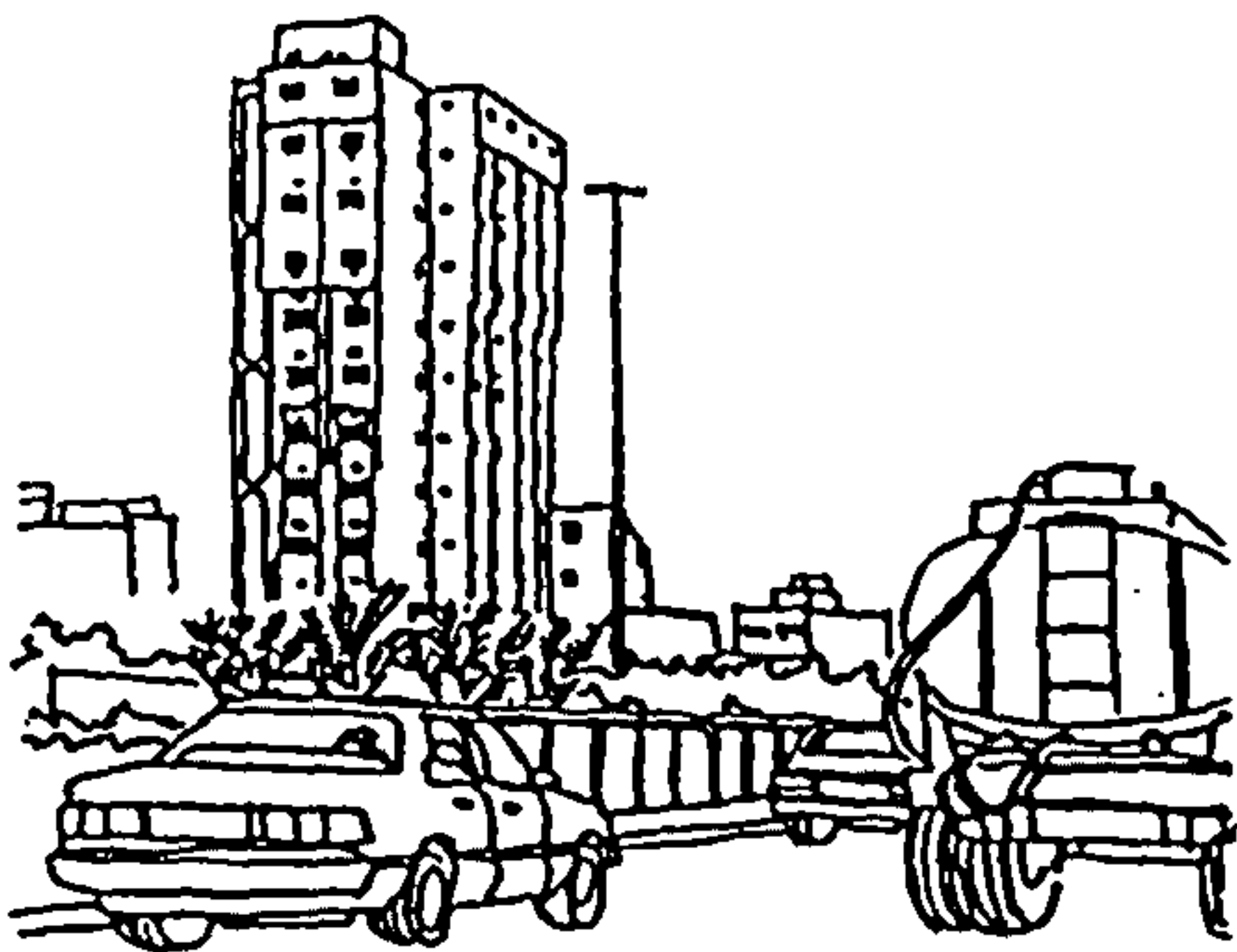
S.9 Building Number 1/3

Building No: 1/3 “Al Mansur Palace” is an 11 storey building located in Al Salam Street which leads to the Haram area. The building contains 93 rooms with a total capacity of 520 pilgrims. The irregular layout of residential floor contains: 1) one master bedroom with toilet including a shower and one bathroom and 2) two bedrooms sharing one bathroom. All the three bedrooms are furnished with a number of sleeping-cushions to increase the capacity of the building. The apartment also contains a kitchen which is well furnished with wall-mounted cabinets and a sink. The marble elevations are projected further outside gradually as the height increases. Although, the number of windows (2-3/ bedroom) provides good light, noise is transmitted from the street traffic.

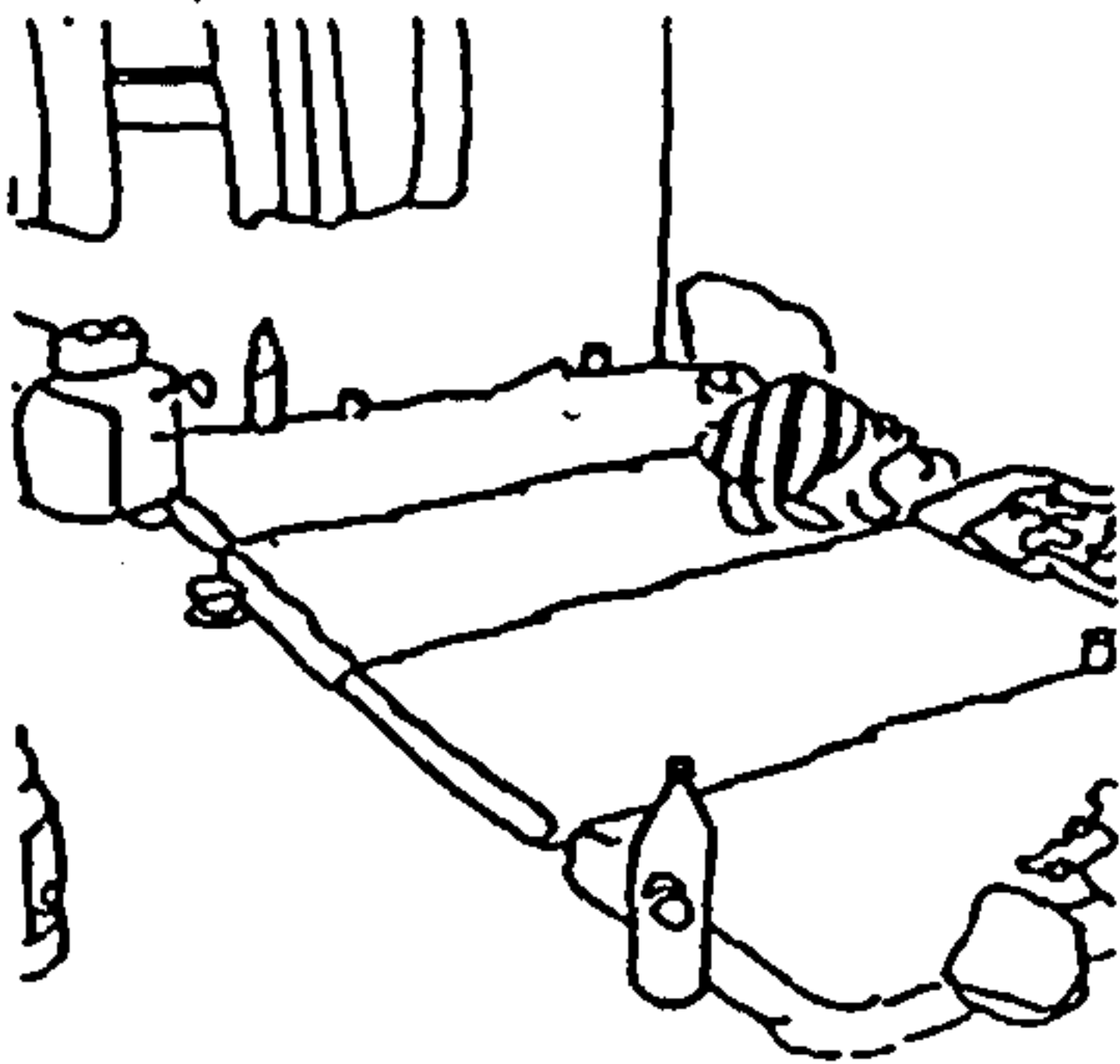
Fig C.9



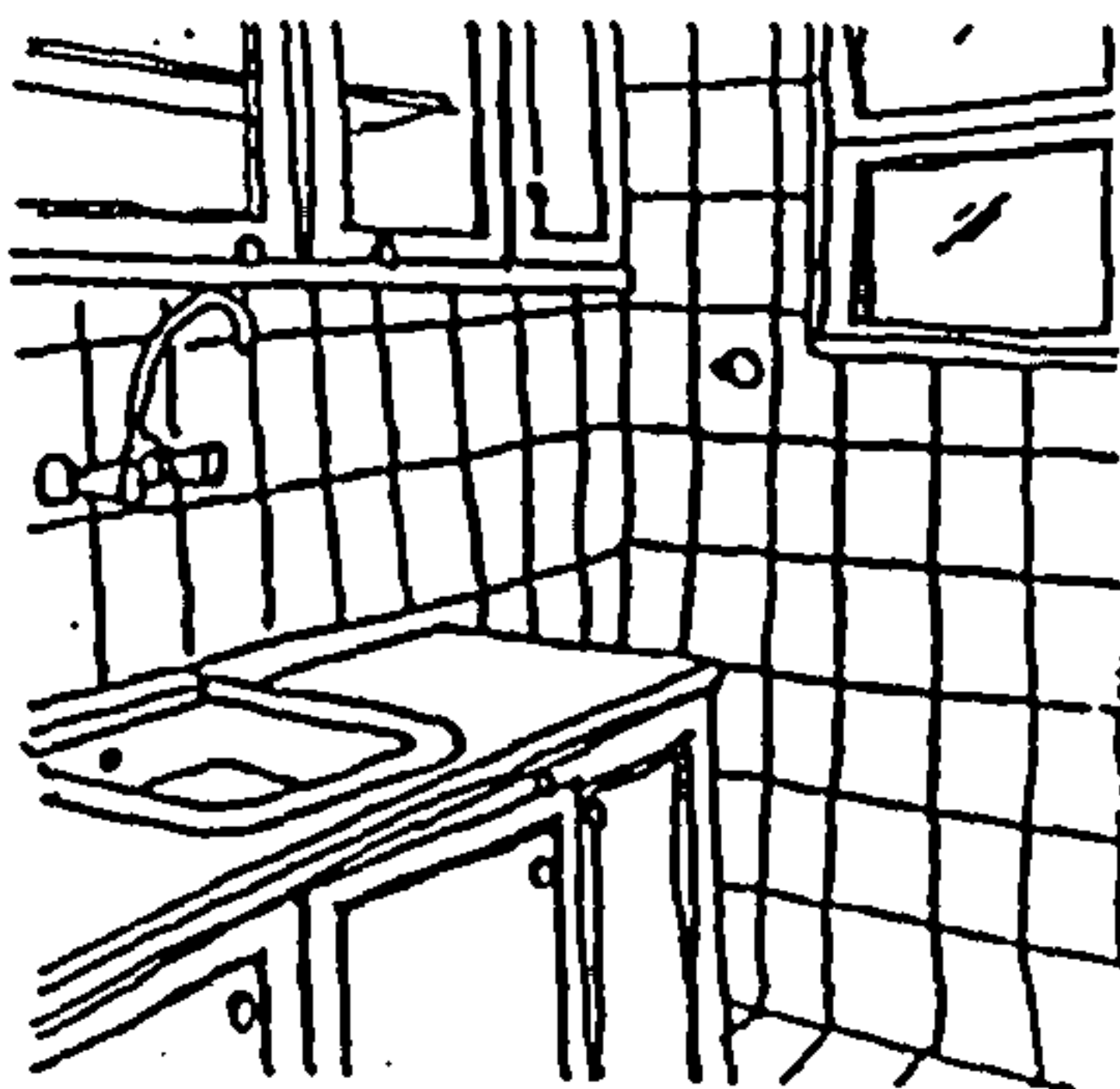
(b) Building exterior view



(c) Reception area



(d) Typical bedroom



(e) Typical kitchen

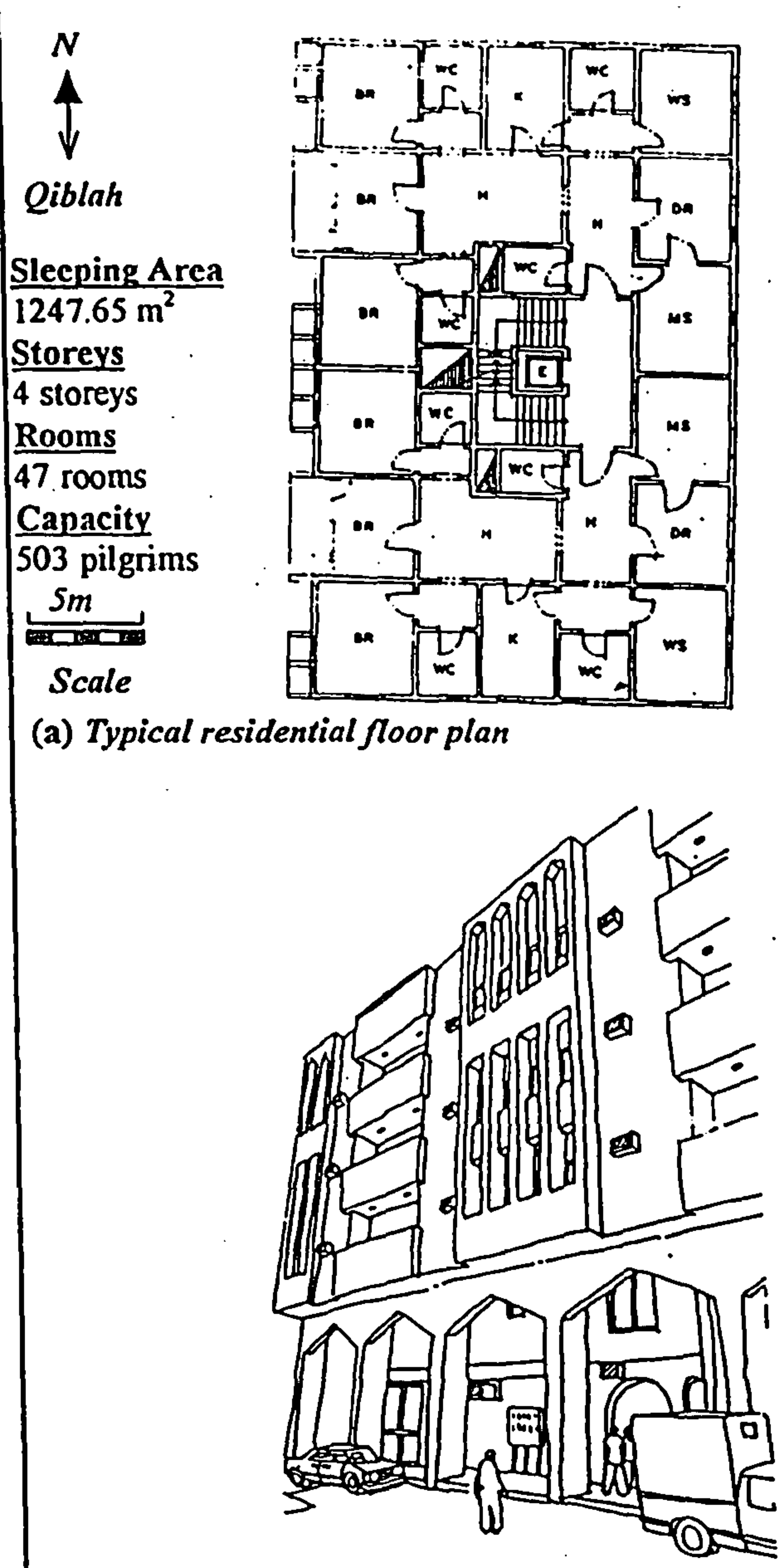
S.10 Building Number 2/3

Building No. 2/3 “Anwar Al Madina, Al Hashemiah” is a residential building. The ground floor contains the “temporary” reception area which consists of a small table, chair and key board (c). Each of the floors is mainly designed with 2 large apartments which are further divided into two main parts:

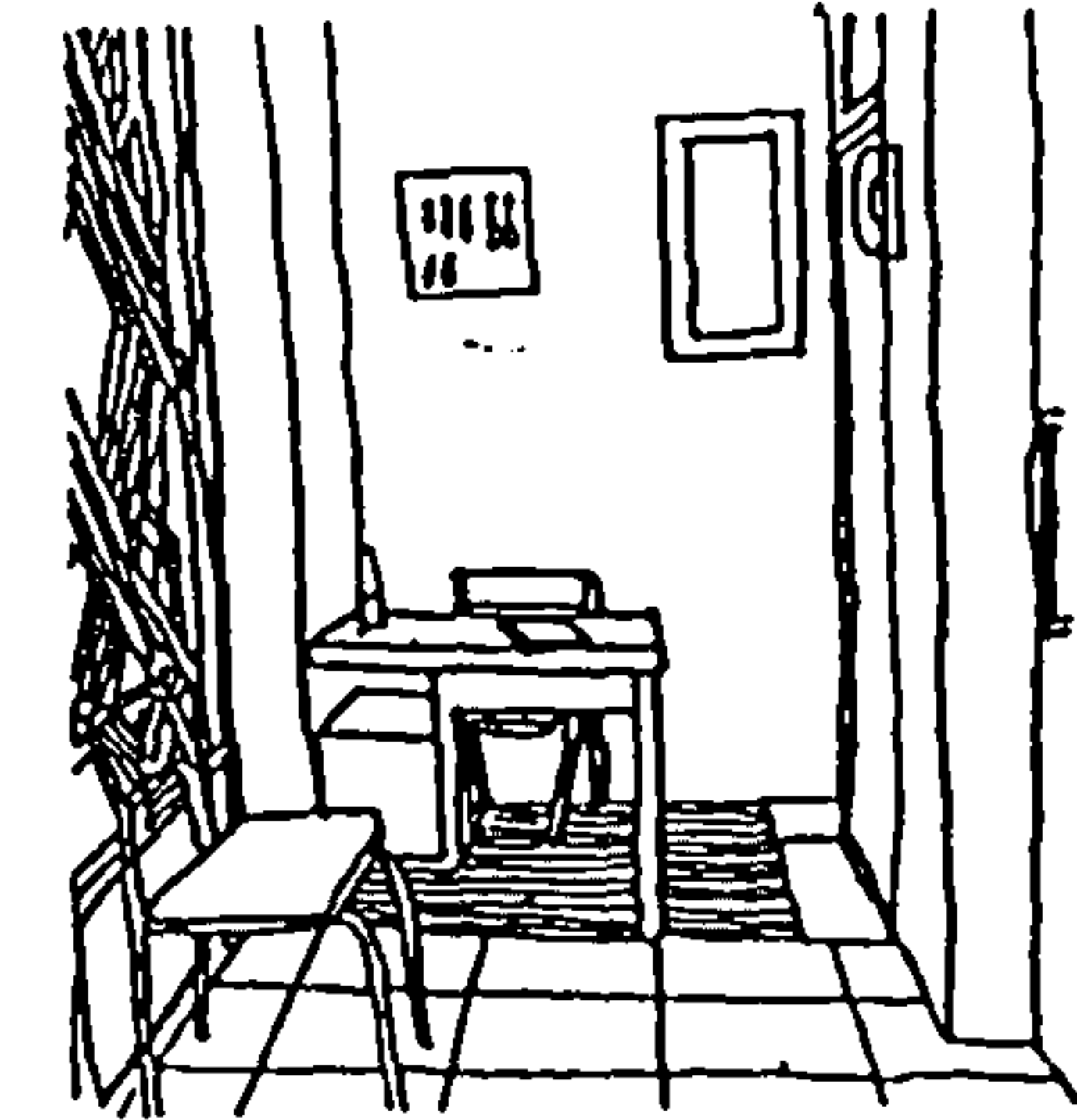
1) the guest quarter which contains the men’s sitting room, men’s bathroom, women’s sitting room, women’s bathroom and dining room located between the two sitting rooms to be used alternately by both the women and men.

2) The family quarters which consist of three bedrooms, a kitchen and two bathrooms. All the rooms however, are used for sleeping and cooking (e) as well as storage space (d). The archēd elevation contains deep windows for privacy (b).

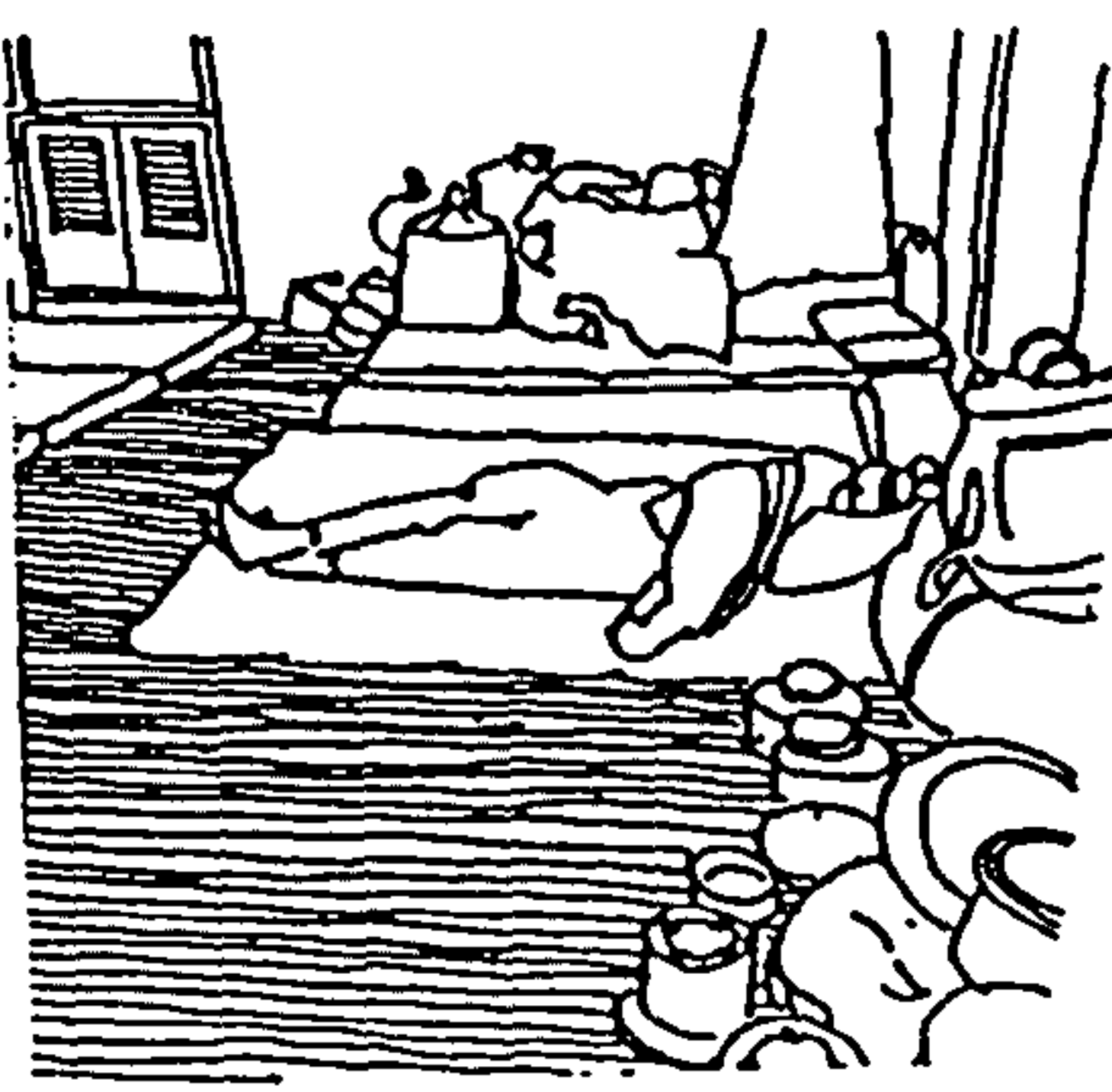
Fig C.10



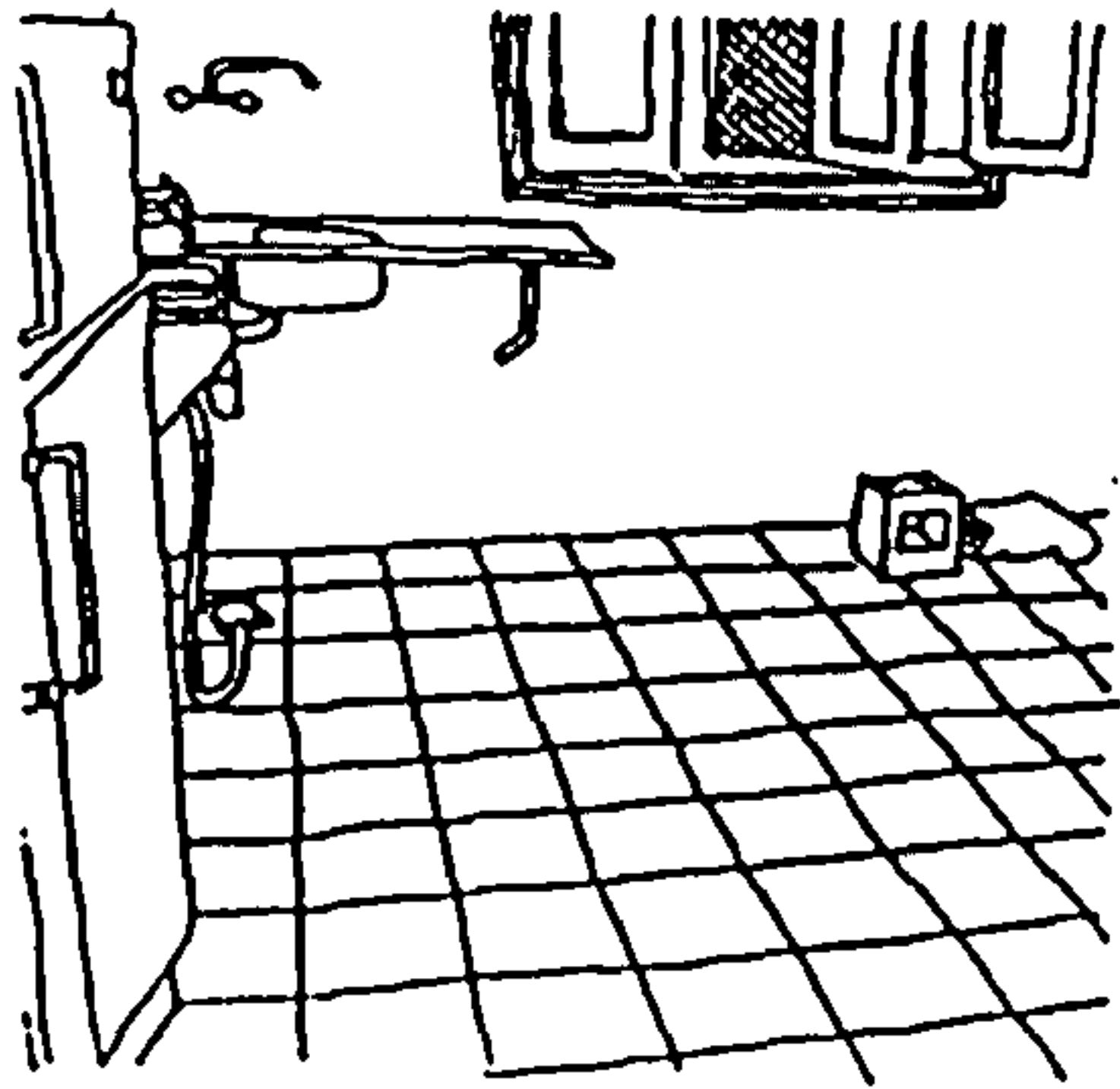
(b) Building exterior view



(c) Reception area



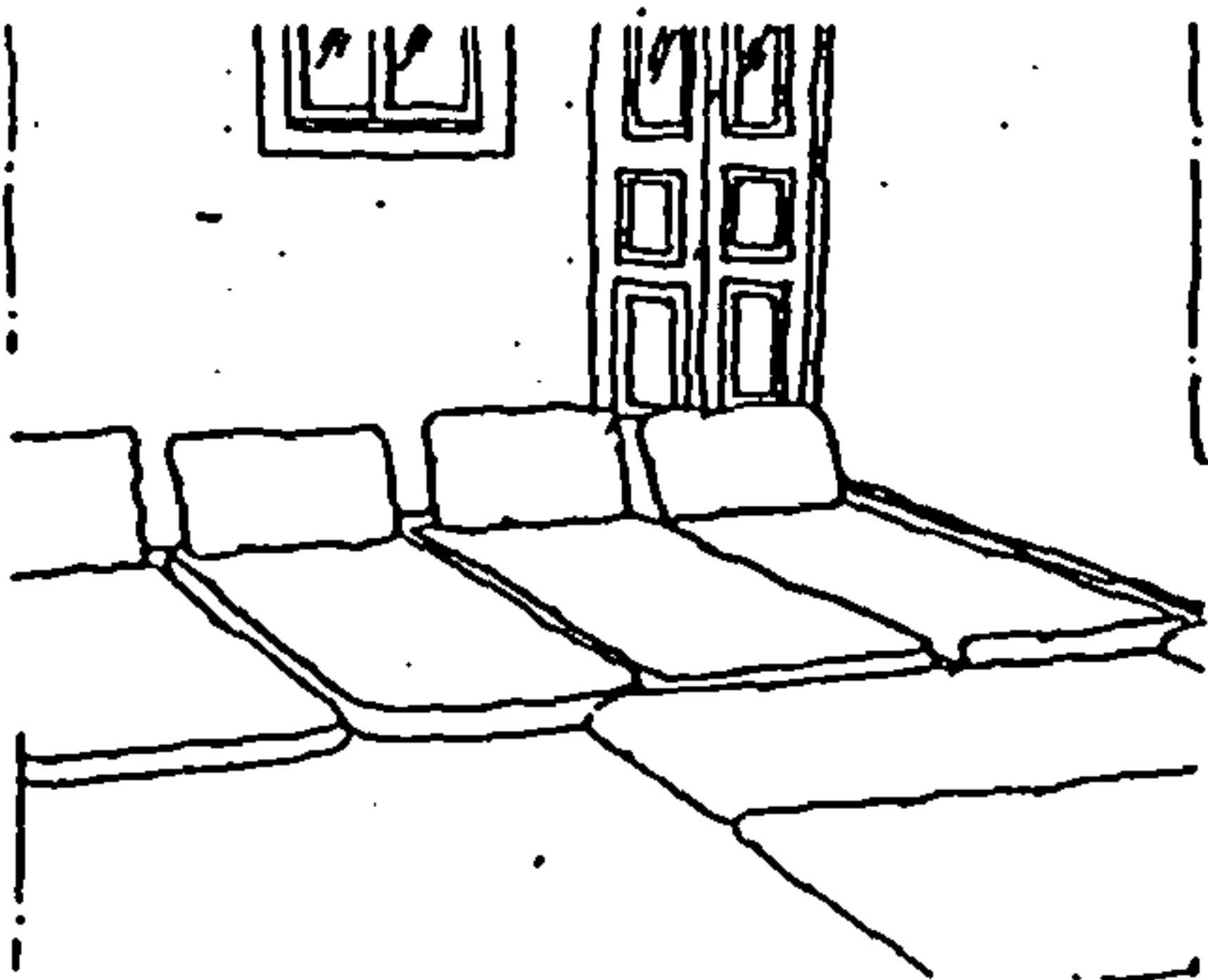
(d) Typical bedroom



(e) Typical kitchen

S.11 Building Number 3/3

Building No. 3/3 “Awqaf Al Hashem, Joharat · Al Madina” has offices at the ground and mezzanine levels. Each of the other seven residential storeys is divided into two apartments each consisting of a sitting room, dinning room, two bedrooms, kitchen (d) and two bathrooms (a). These components are arranged around a relatively large hall. This arrangement results in the loss of privacy between the guest quarters (sitting room, dining room and men’s bathroom) and sleeping quarters. However, in the pilgrimage season all the rooms are treated as bedrooms (furnished with sleeping cushions) as well as sitting and dining areas (c). The main facade of the building is characterised by windows covered with *Rowashans* which are for privacy and decoration rather than protection from the weather (b).



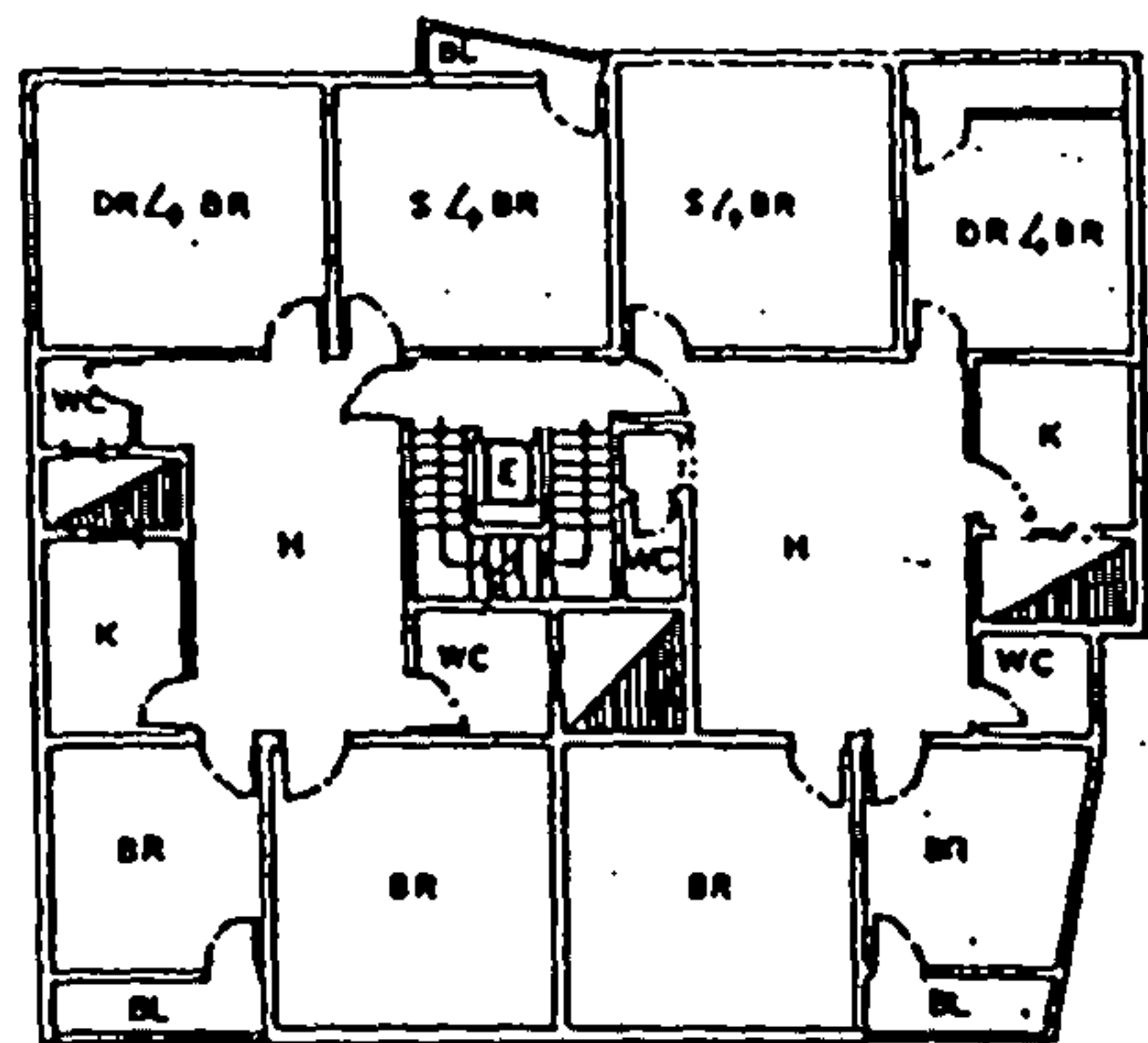
(c) Typical bedroom

Fig C.11

Qiblah
↑
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Sleeping Area
1141.21 m²
Storeys
9 storeys
Rooms
56 rooms
Capacity
462 pilgrims

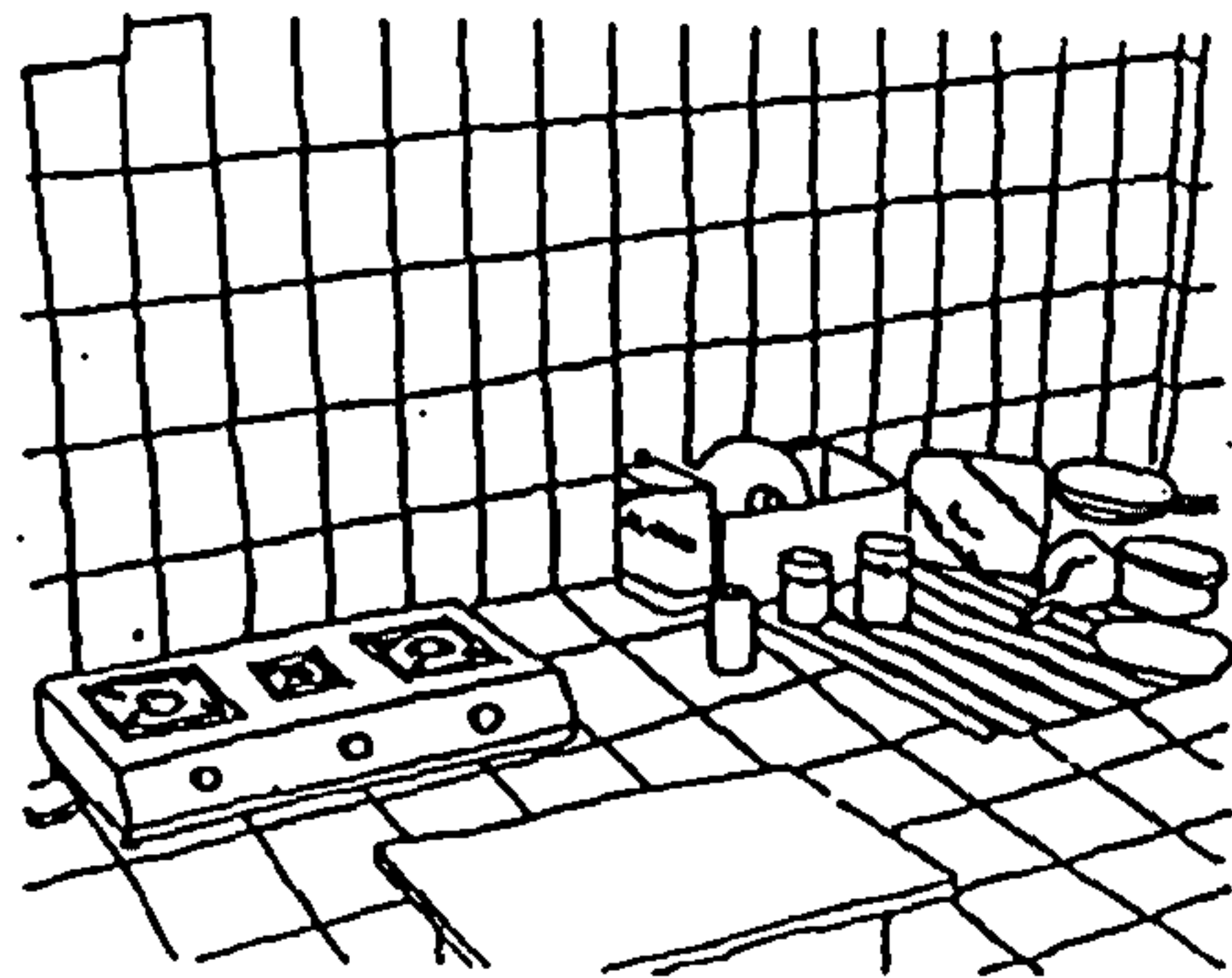
5m
Scale



(a) Typical residential floor plan



(b) Building exterior view

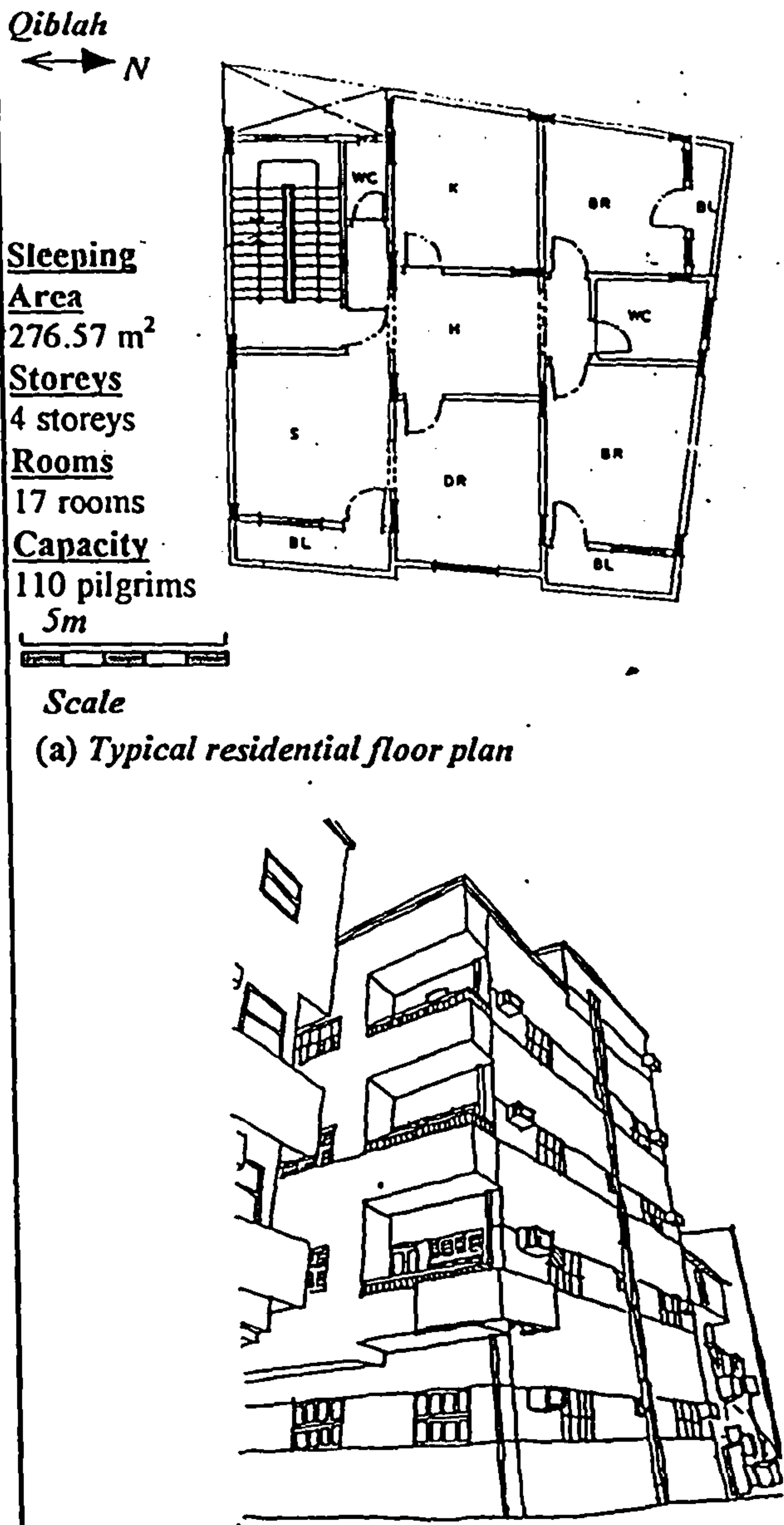


(d) Typical kitchen

S.12 Building Number 4/3

Building No. 4/3 “ Fakhar Al Nessa Mohammed” is a 4 storey residential building. A reception table with seats is provided in the main entrance which is affected visually by the electricity control panels (c) . On each floor the apartment mainly contains a sitting room, dining room, 2 bedrooms, kitchen and 2 toilets (a). Although, each upper floor contains three balconies, pilgrims are used the main hall to wash and dry their clothes (d). The windows are provided with the lattice screening (which was commonly used before the Seventies) for privacy and the control of the penetration of the sun’s hot rays. The elevation is characterised by red paint strips connecting the windows. However, the service pipes along the external walls the aesthetic value of the building.

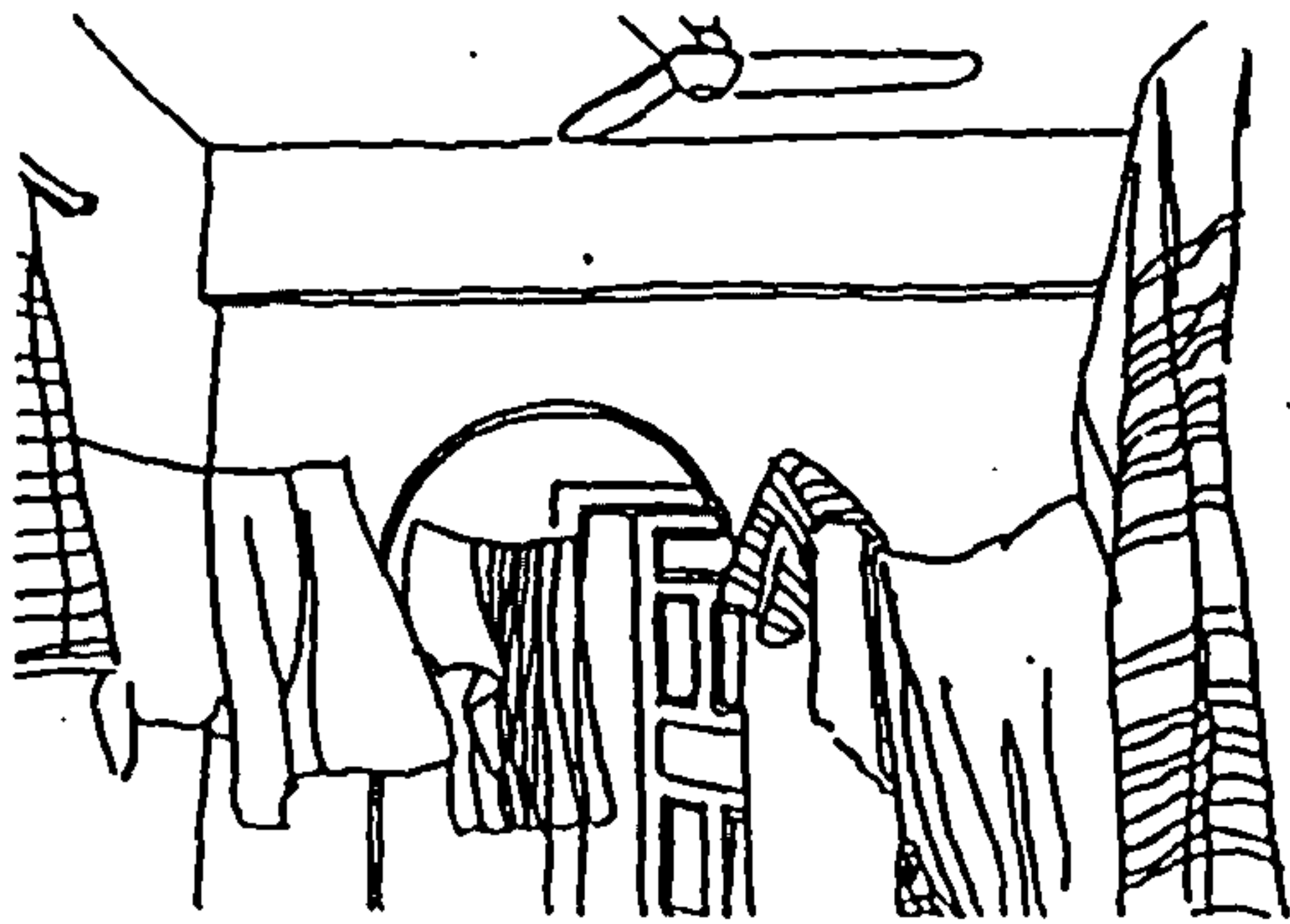
Fig C.12



(b) Building exterior view



(c) Reception area

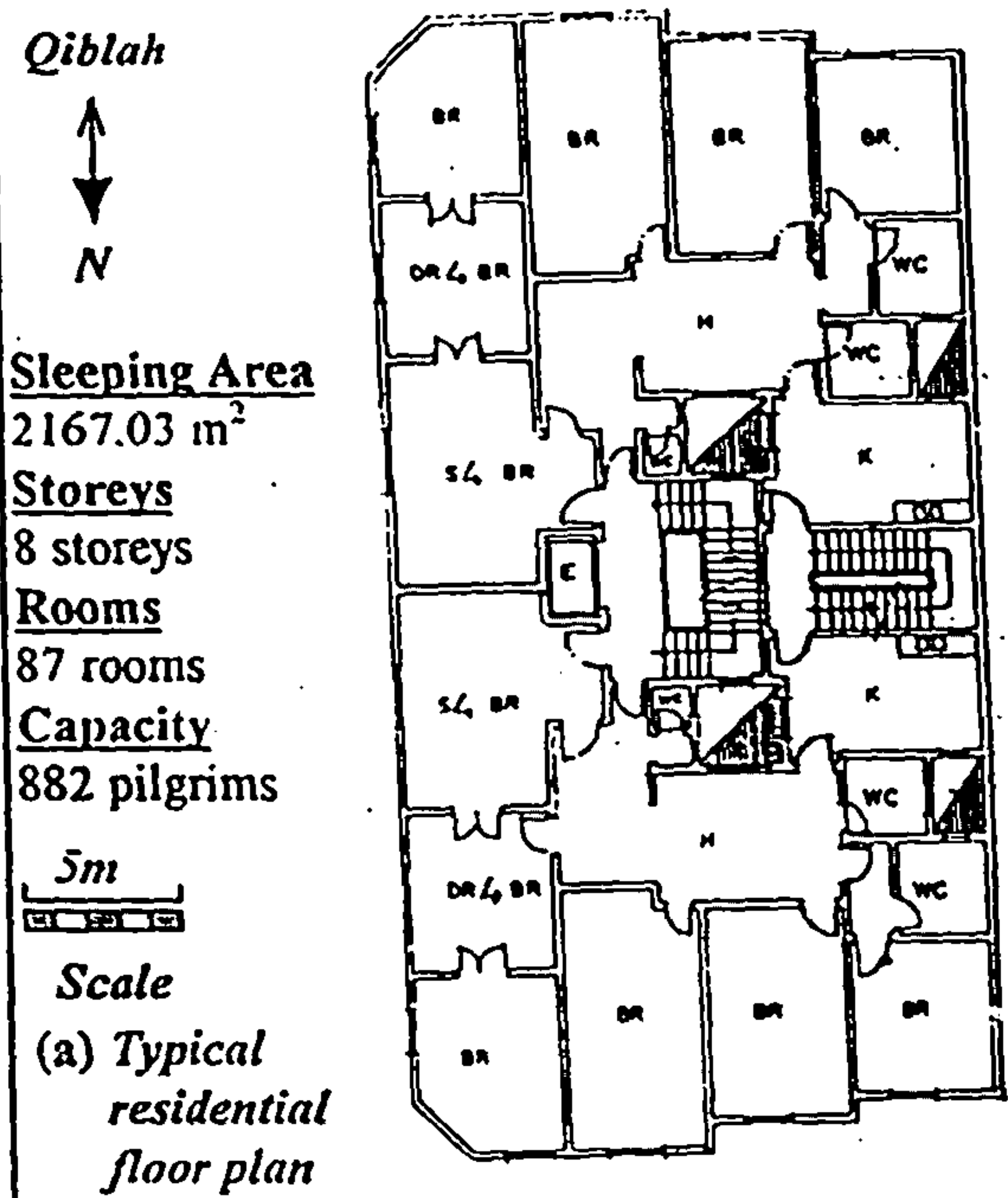


(d) Main hall - as a place for washing and drying the clothes

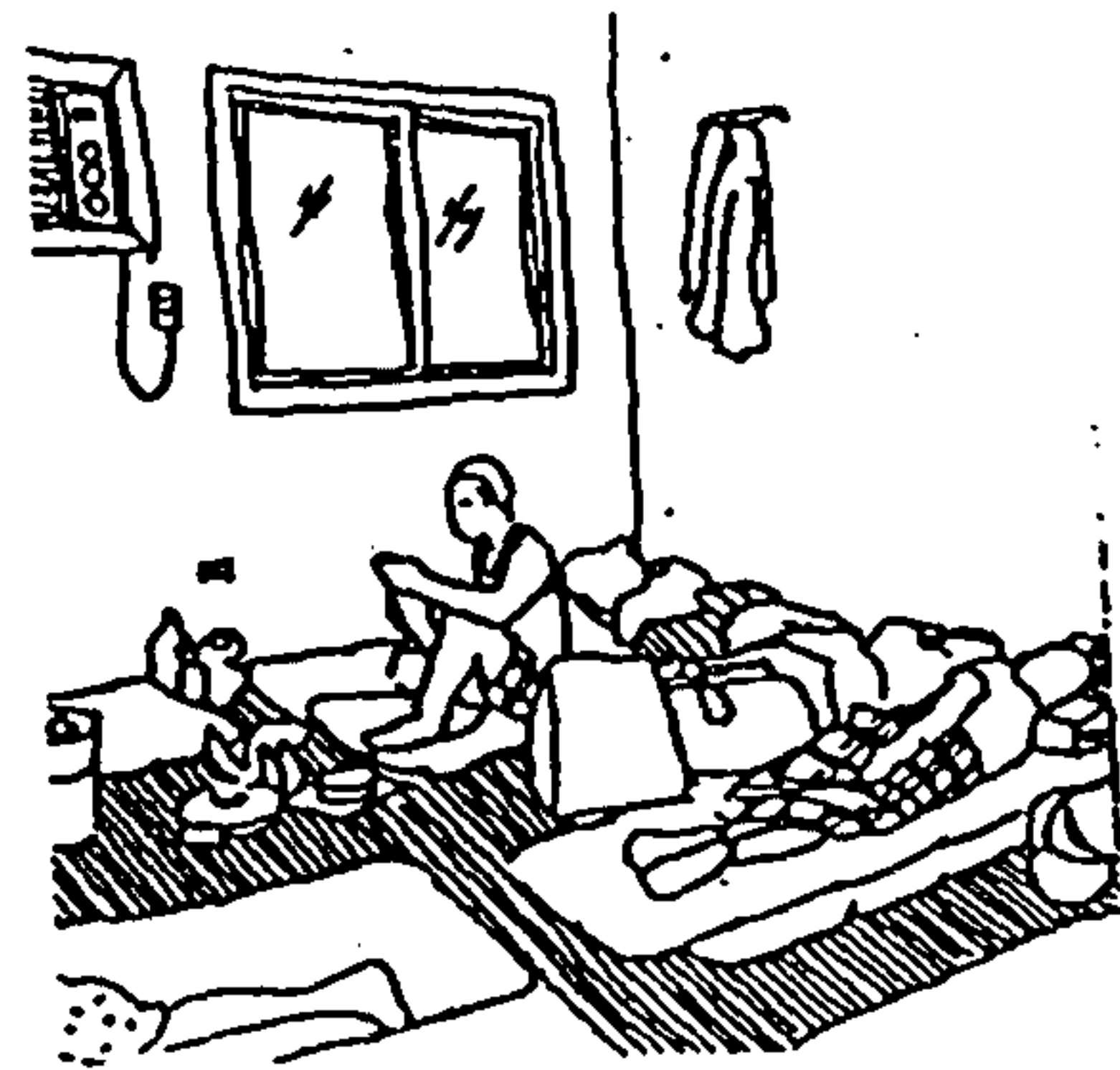
S.13 Building Number 5/3

Building No. 5/3 “Al Faridi Palace” is a commercial / residential building. The six upper residential floors are mainly designed with two symmetrical apartments. Each of these apartments originally contained two quarters: 1) the guest quarter which consists of sitting room, dining room, guest bedroom and men’s bathroom and 2) the family quarter which has a living room, master bedroom with a toilet, another bedroom, kitchen and toilet (a). The building levels are connected by the main staircase, service staircase and elevator. This actually helps to rent the rooms on an individual basis which can be noticed from their furniture as well as the number of small primes stoves in the kitchens . Wooden *Rawshans* which are the main feature of the elevation are used for privacy, and as aesthetic and shading device (b).

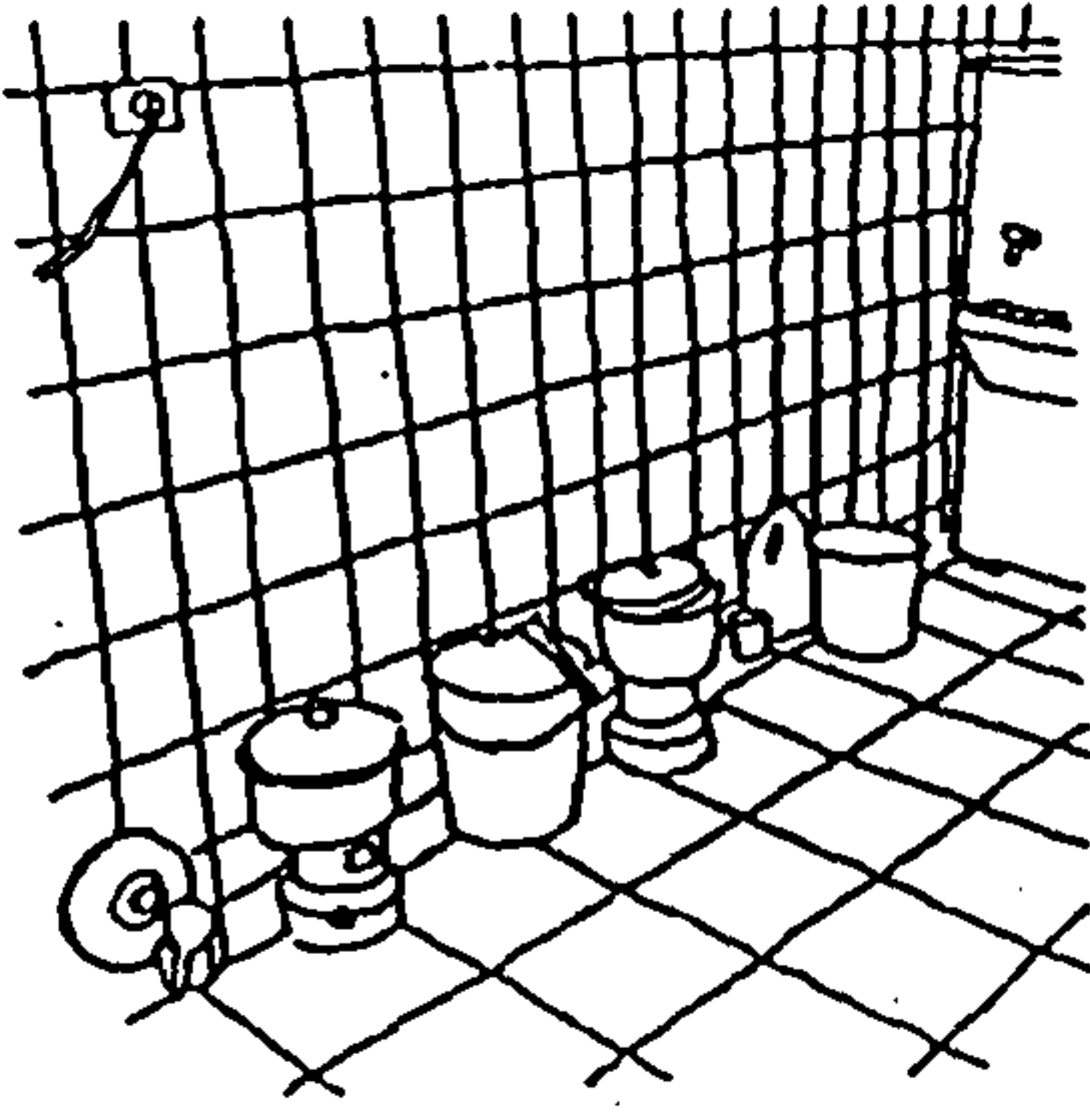
Fig C.13



(b) Building exterior view



(c) Typical bedroom

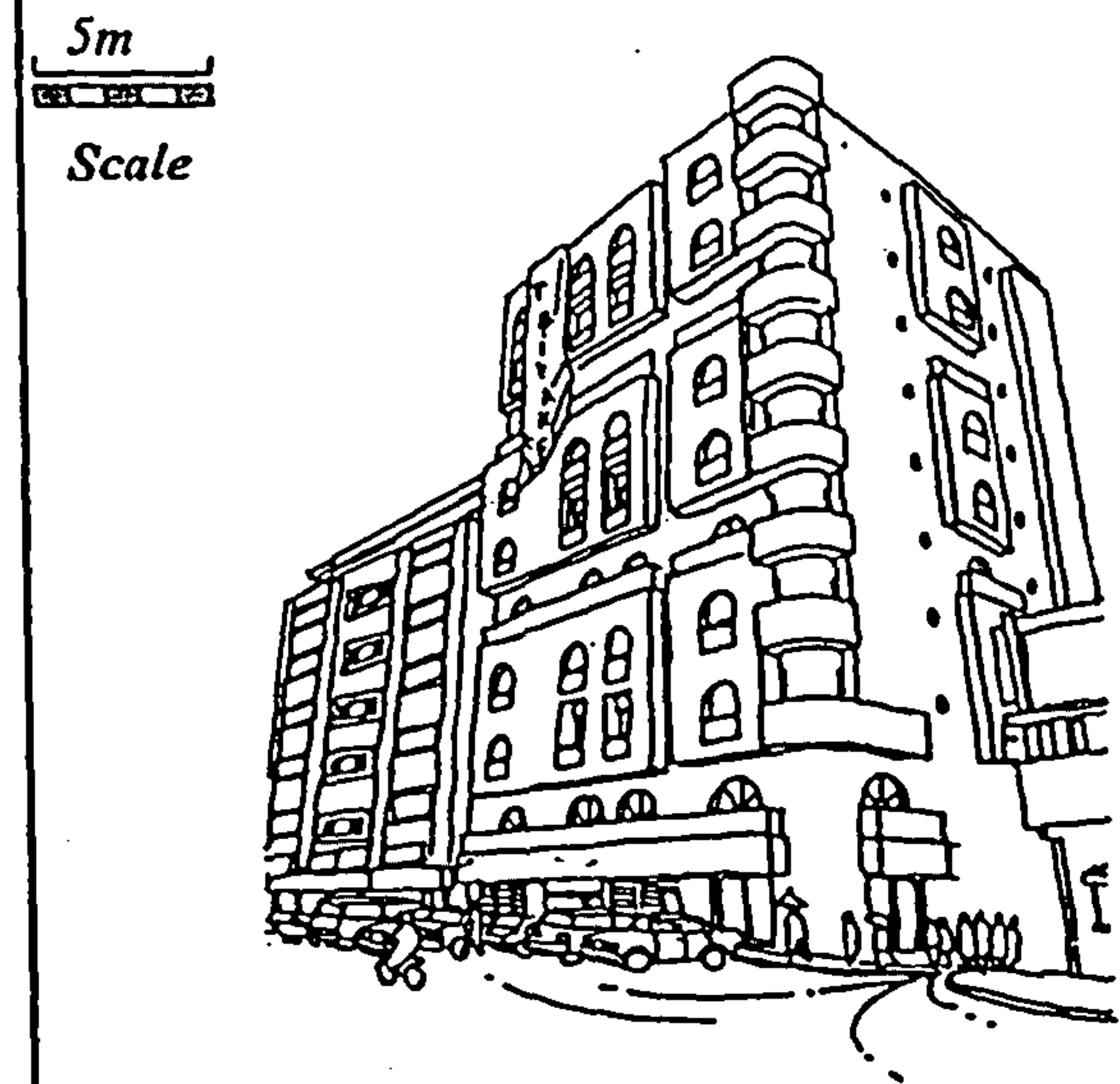
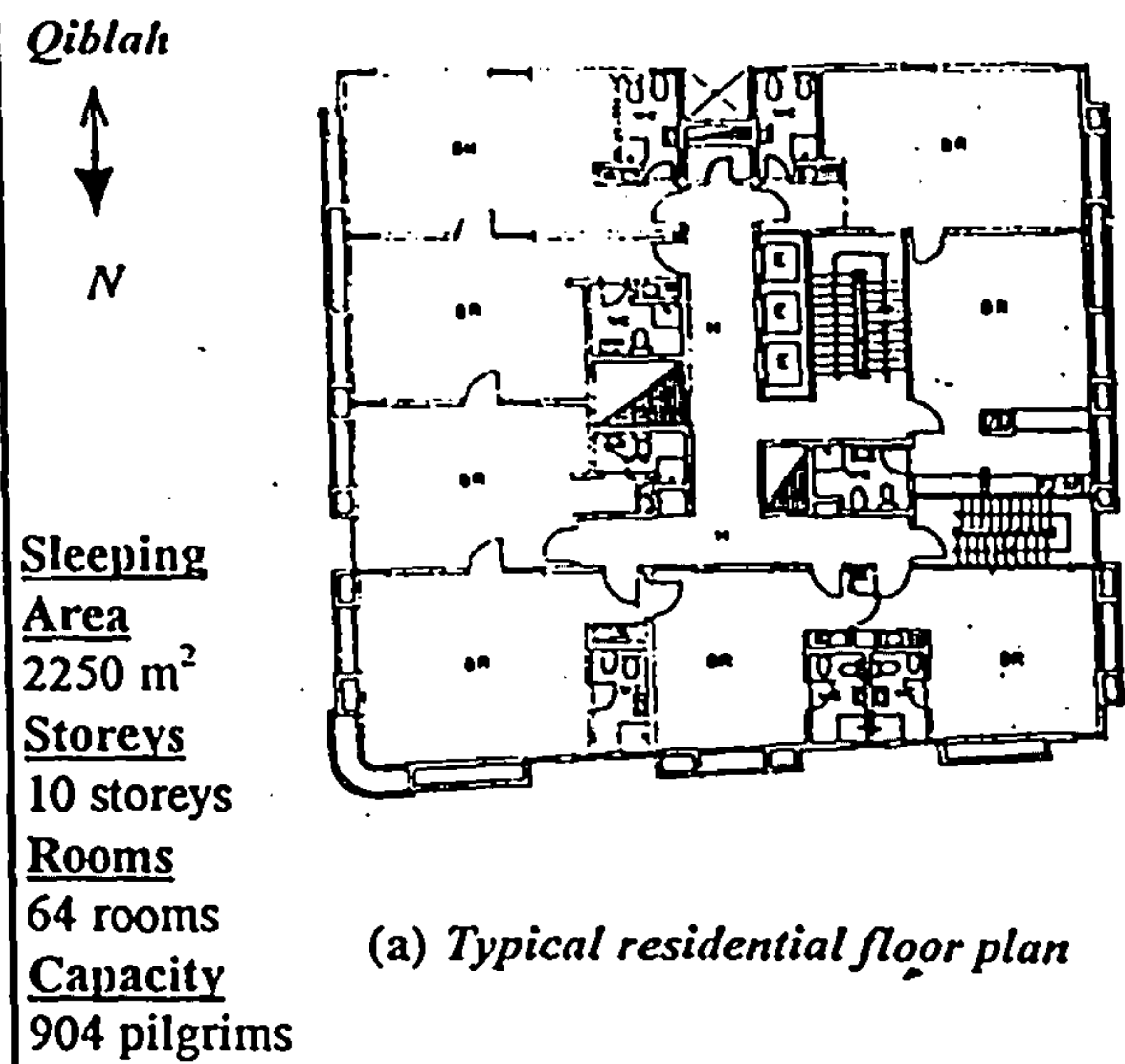


(d) Typical kitchen

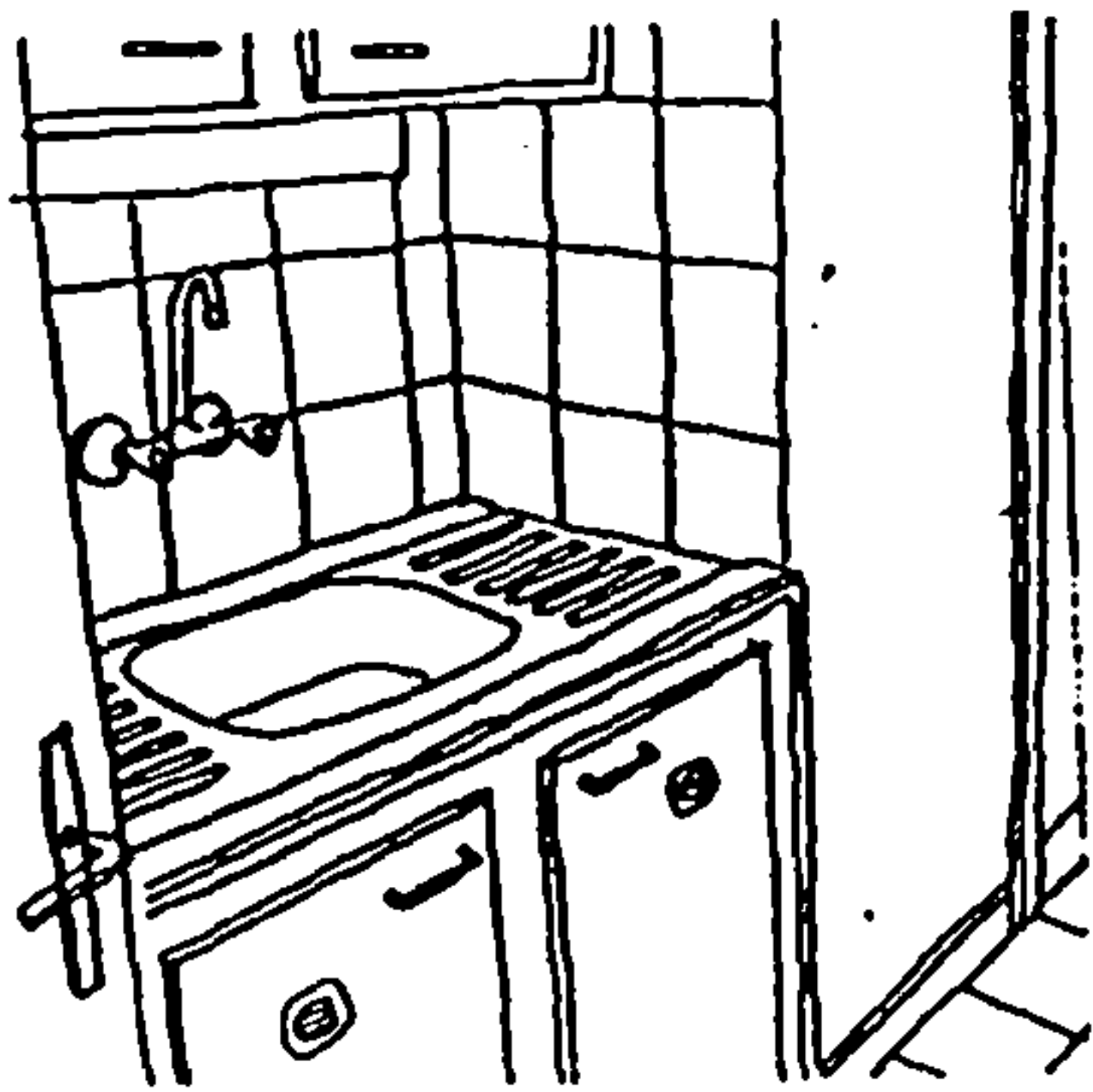
S.14 Building Number 6/3

Building No. 6/3 “Salamh Tower” is a commercial / residential building. In addition to the commercial activities at the perimeter, the ground floor contains the reception area, a common kitchen (d) and common dining area (e). Also, the building contains 3 lifts and 2 staircases which provide good connections with all levels. Each of the residential floors was designed on the basis of a pattern of individual bedrooms. With respect to the difference between the bedrooms in term of size, they typically contain a sleeping area, toilet including shower, kitchenette and balcony. The marble covered elevations are characterised by a sequence design in which two storeys project and the third is recessed (b). This system and the screening of the balconies enhance both the beauty and the privacy of the building.

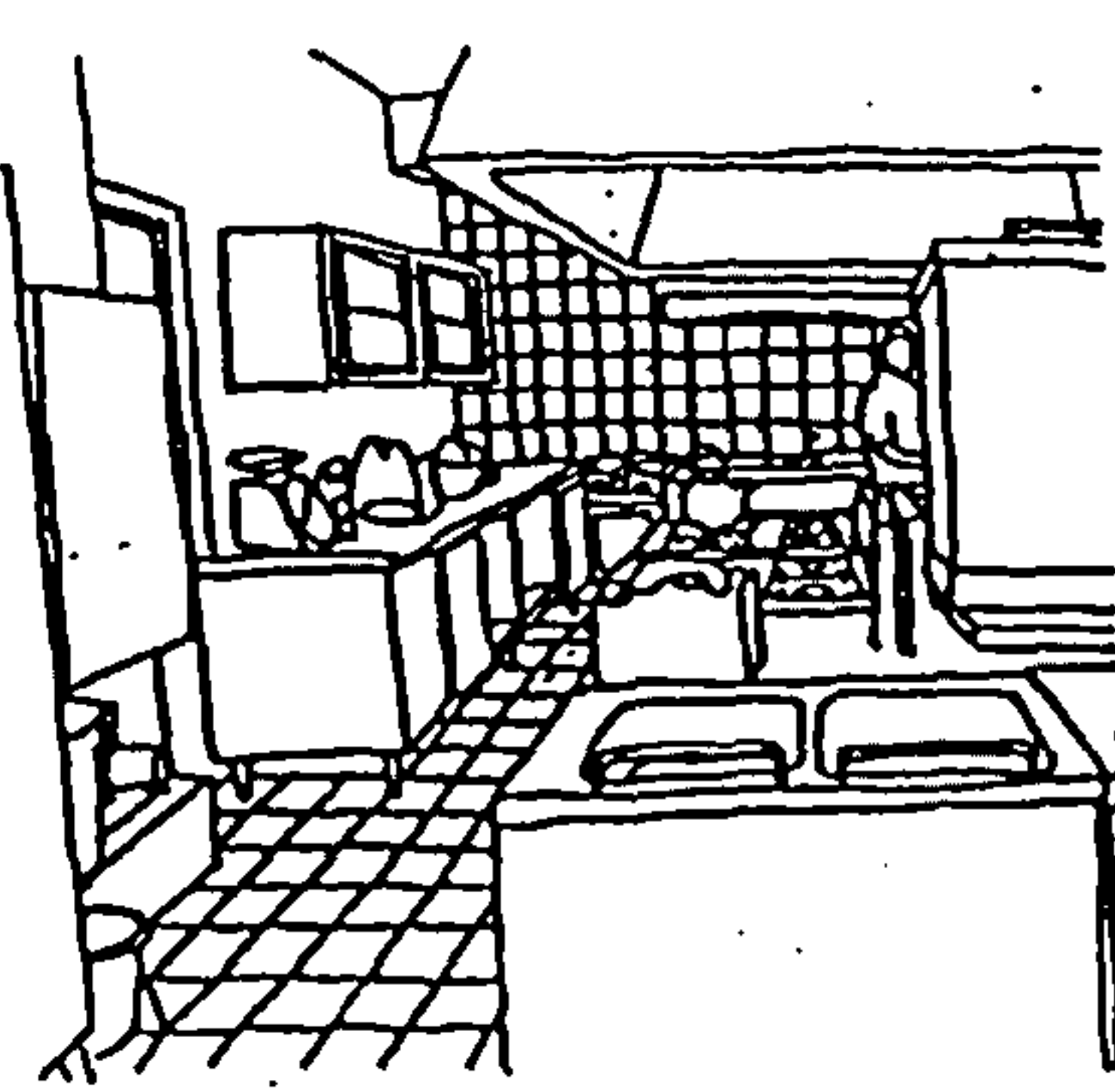
Fig C.14



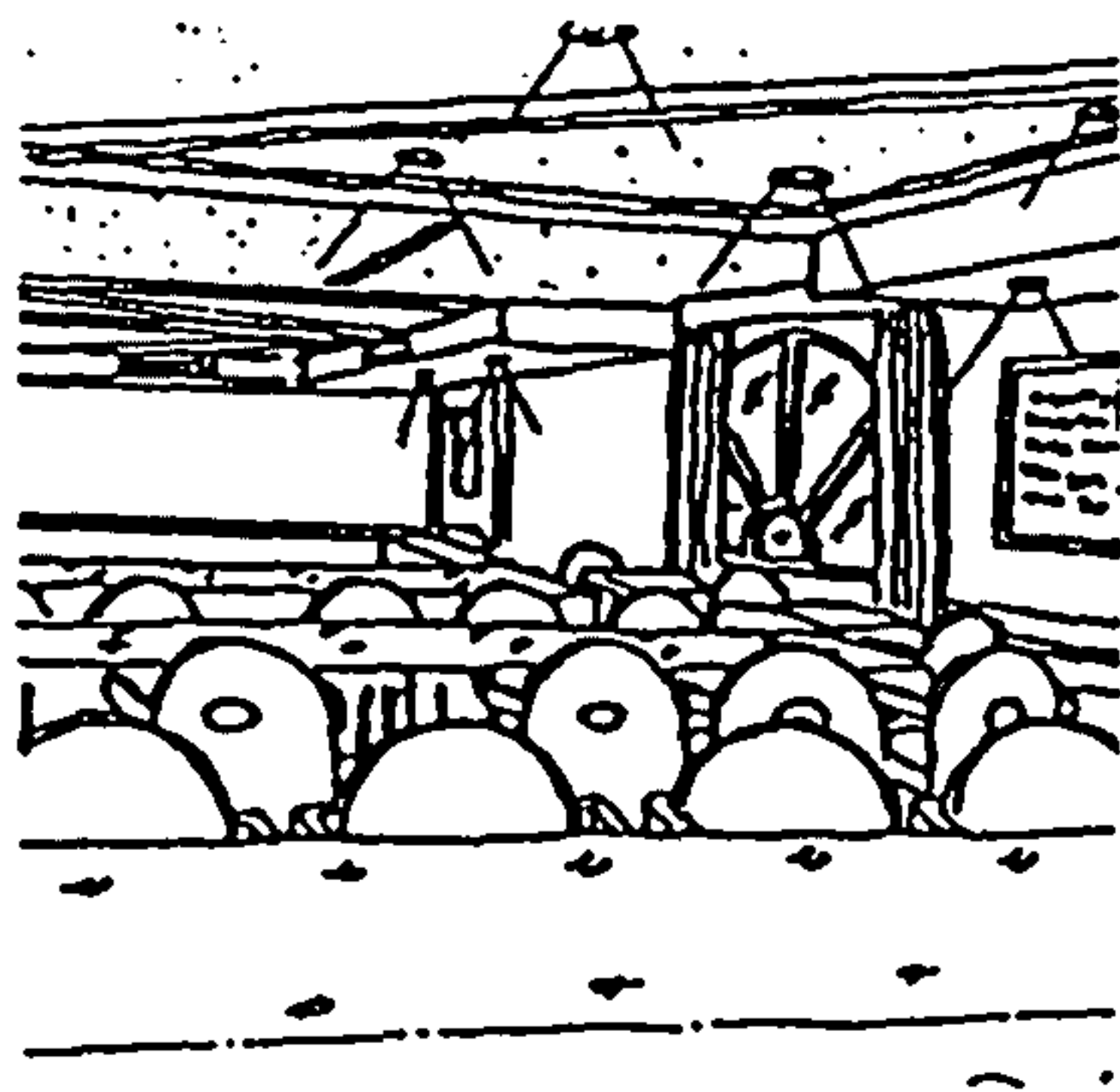
(b) Building exterior view



(c) Bedroom's kitchenette



(d) The building
common kitchen

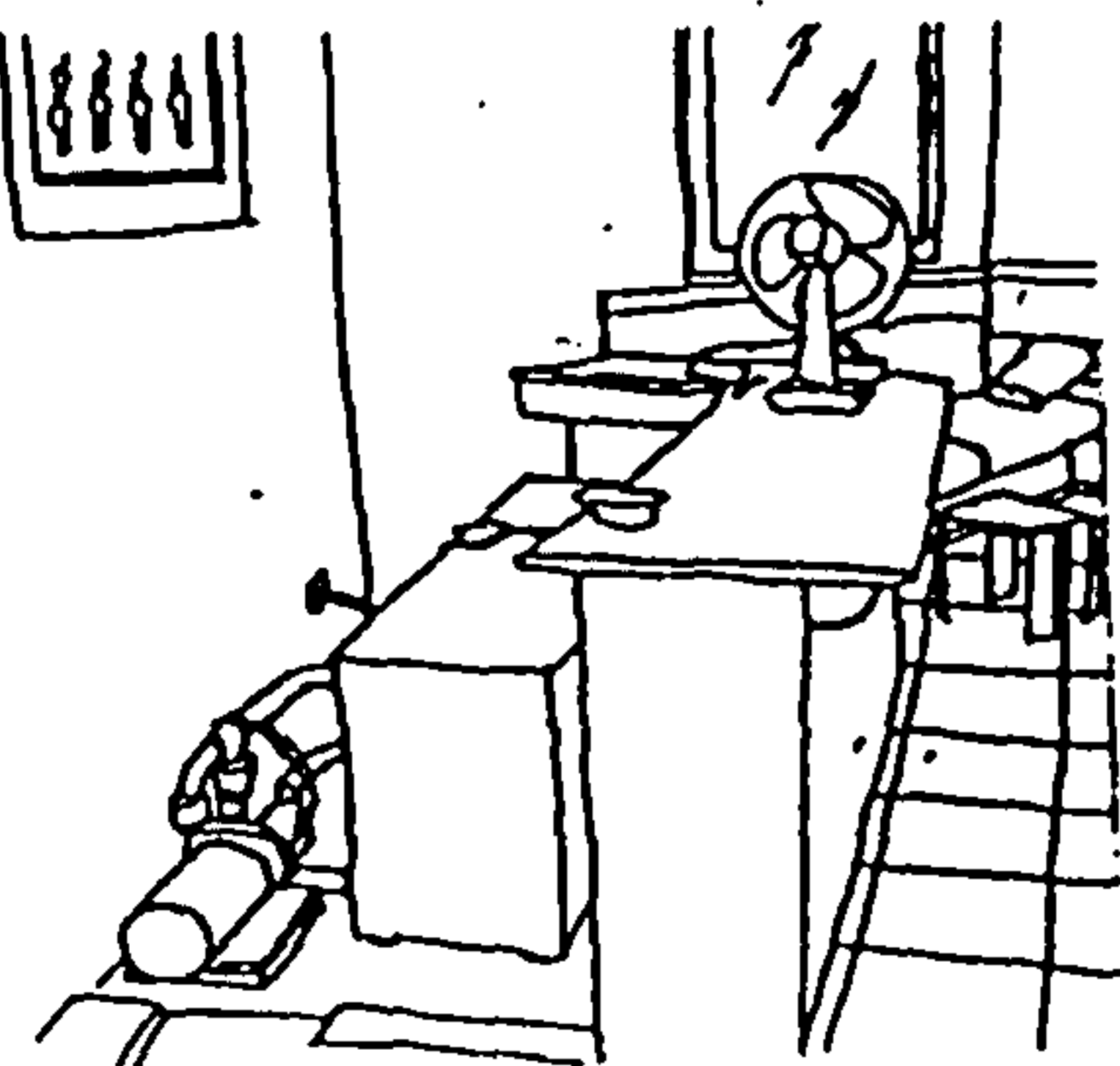
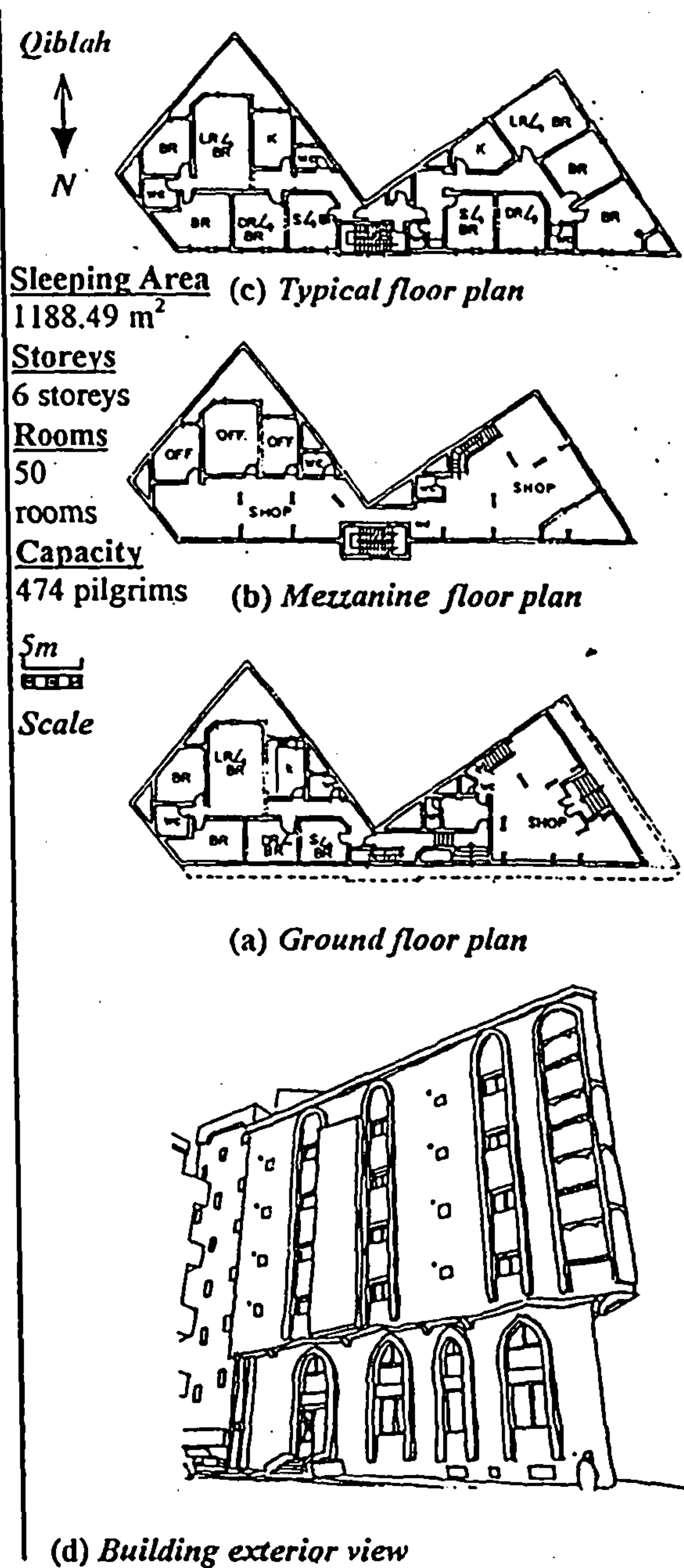


(e) The building
dining area

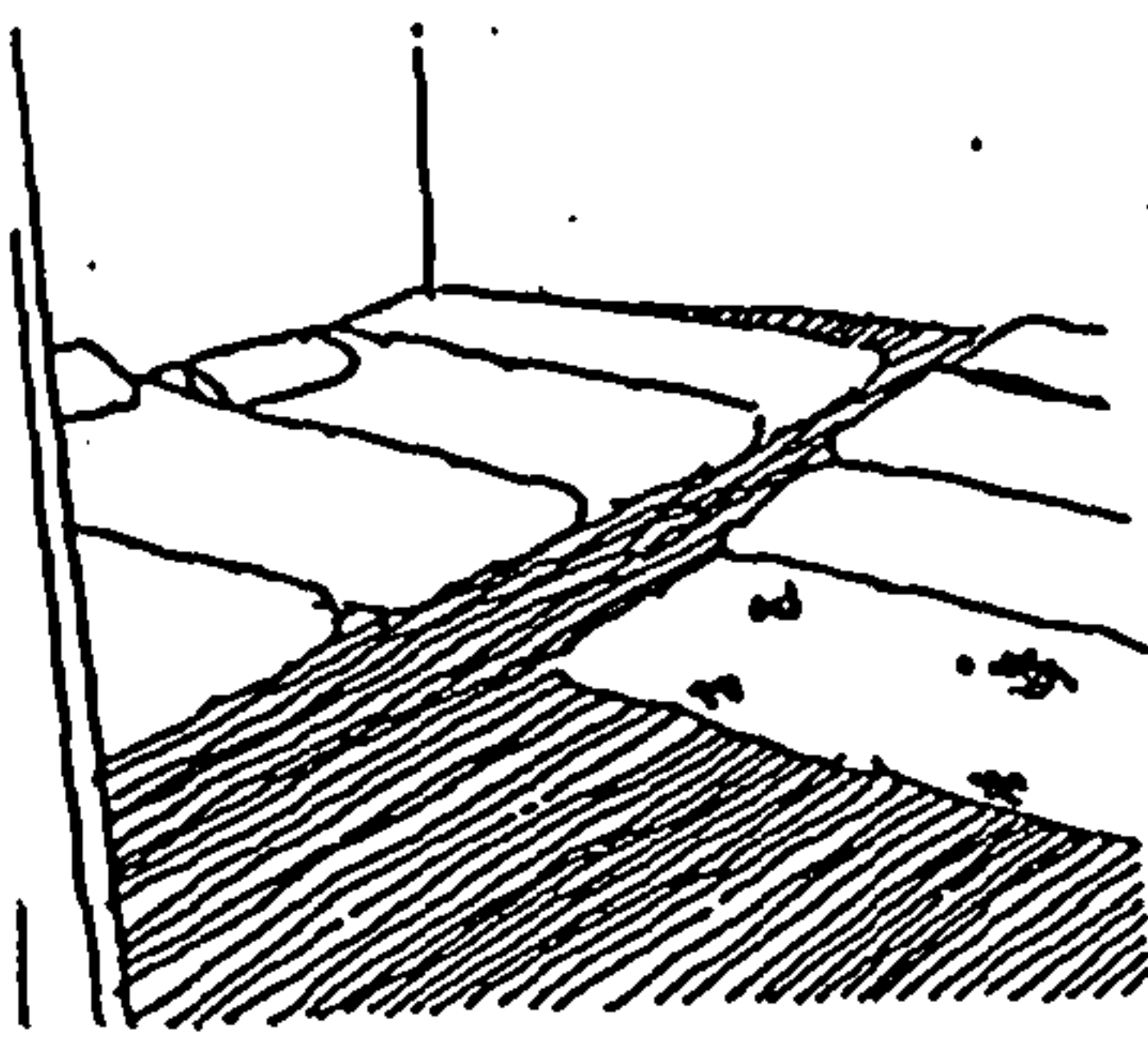
S.15 Building Number 7/3

Building No.7/3 “Dar Al Amudi” is a commercial / residential building. The building which is in the form of two triangular wings connected by a central staircase contains mainly commercial activities on the first two the upper 4 levels for residential use. The ground floor also contains the main entrance which includes a temporary reception table placed in front of the water pump area (e). Each of the two triangular wings in the residential levels contain one apartment. These apartments mainly consist of the guest quarters (sitting room, dining room and men’s bathroom) and the family quarters (2 bedrooms, living room, kitchen (g), and family toilet. To increase the capacity , all the rooms are furnished with carpets and sleeping-cushions (f). The wooden screen windows of the building provide privacy and aesthetic value (d).

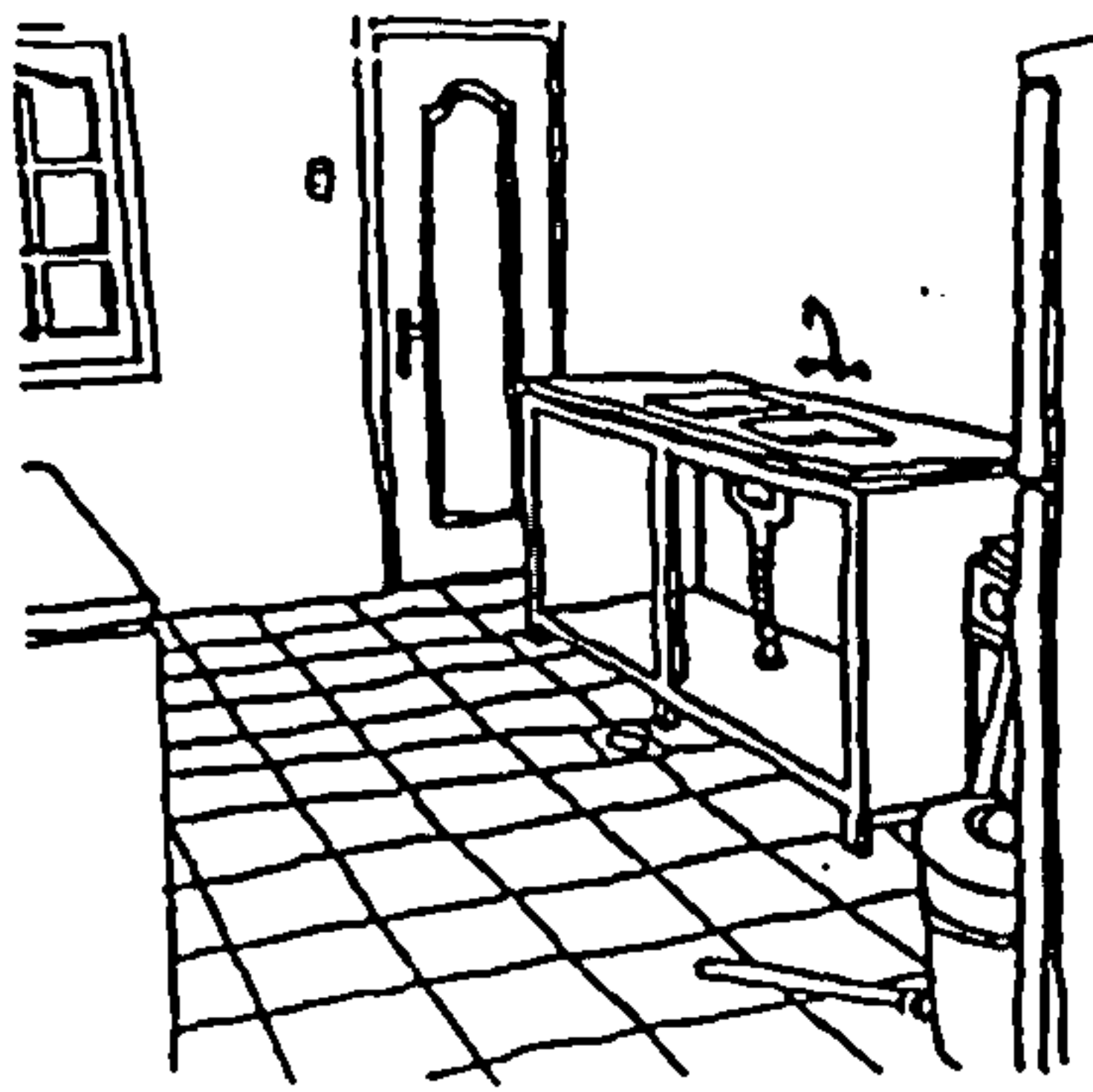
Fig C.15



(c) Reception area



(f) Typical bedroom

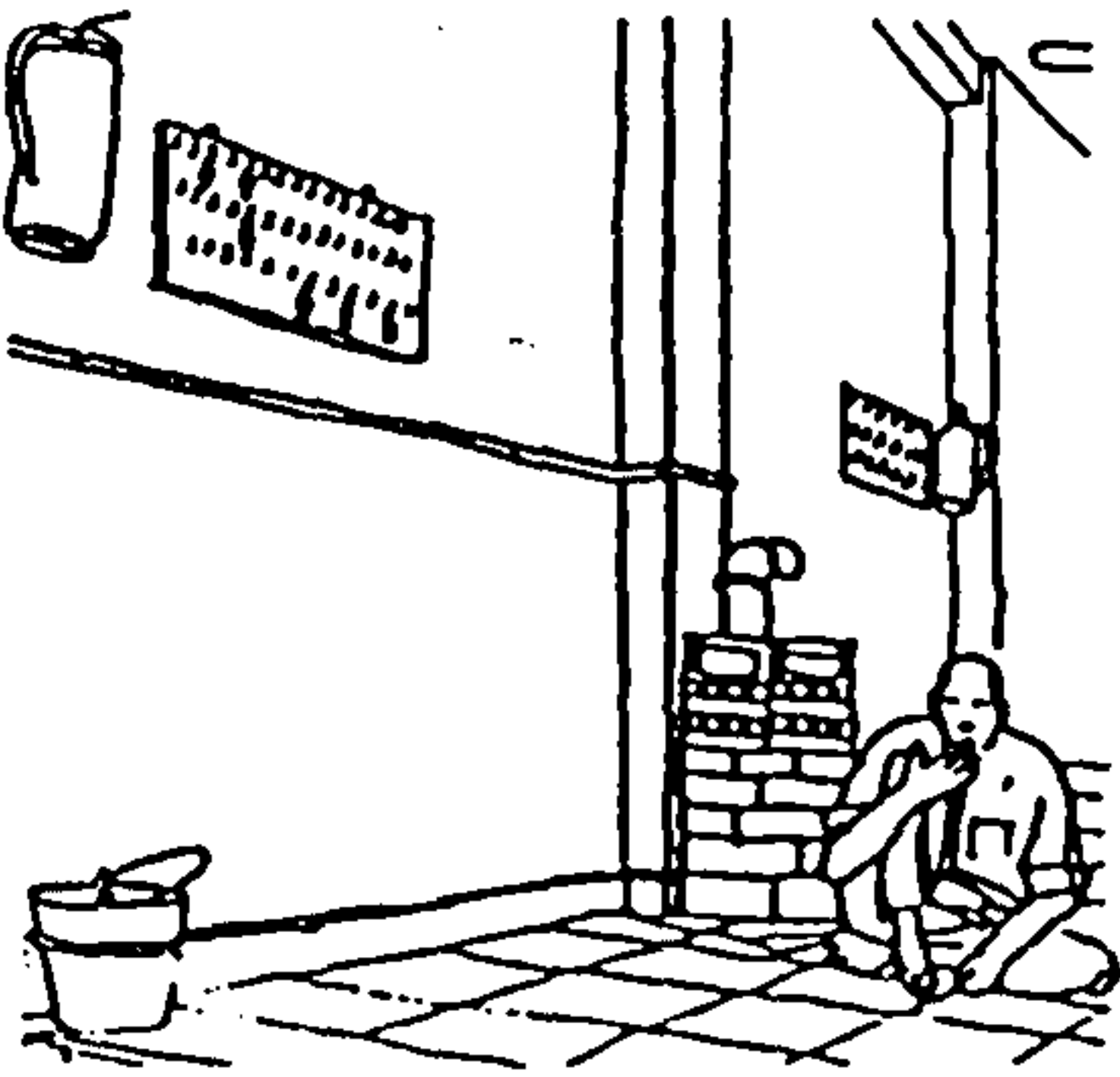
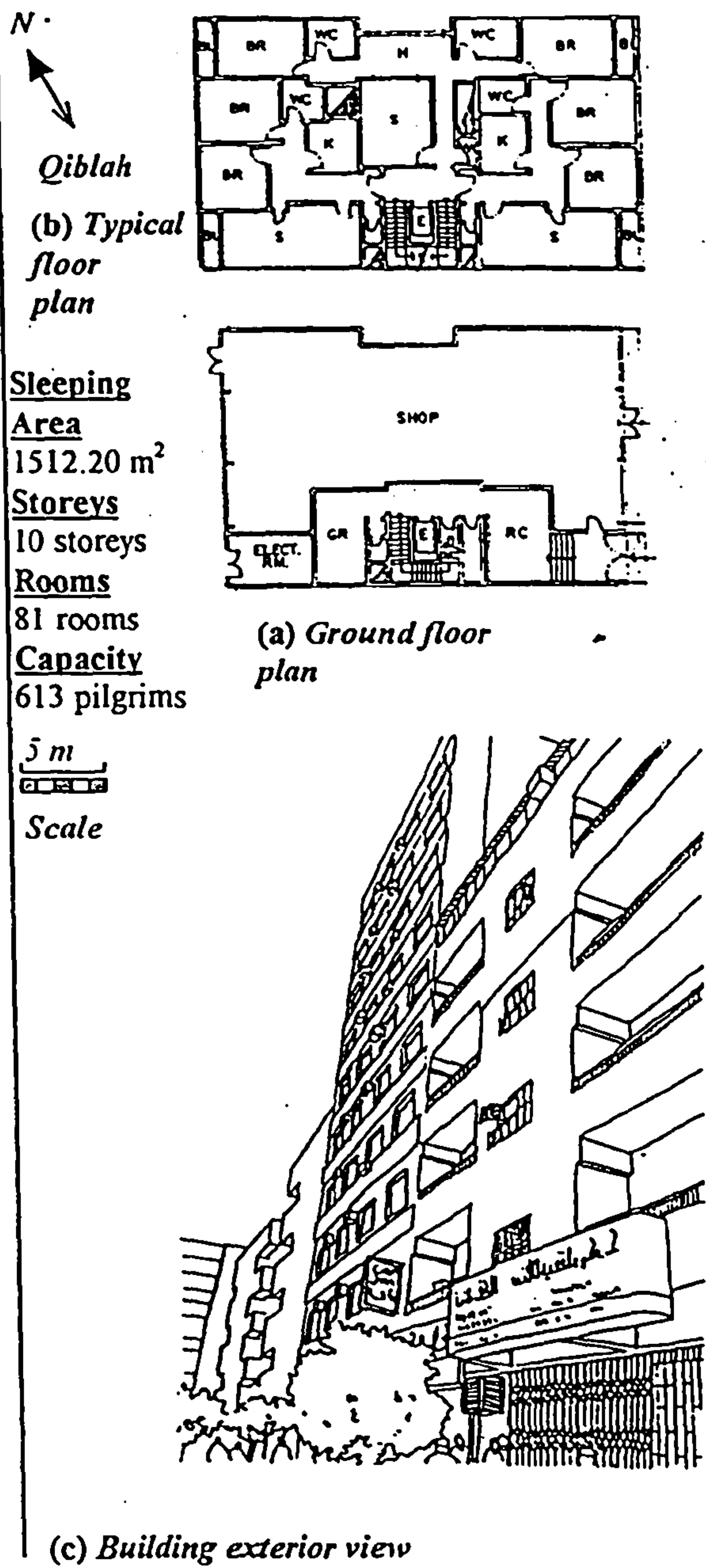


(g) Typical kitchen

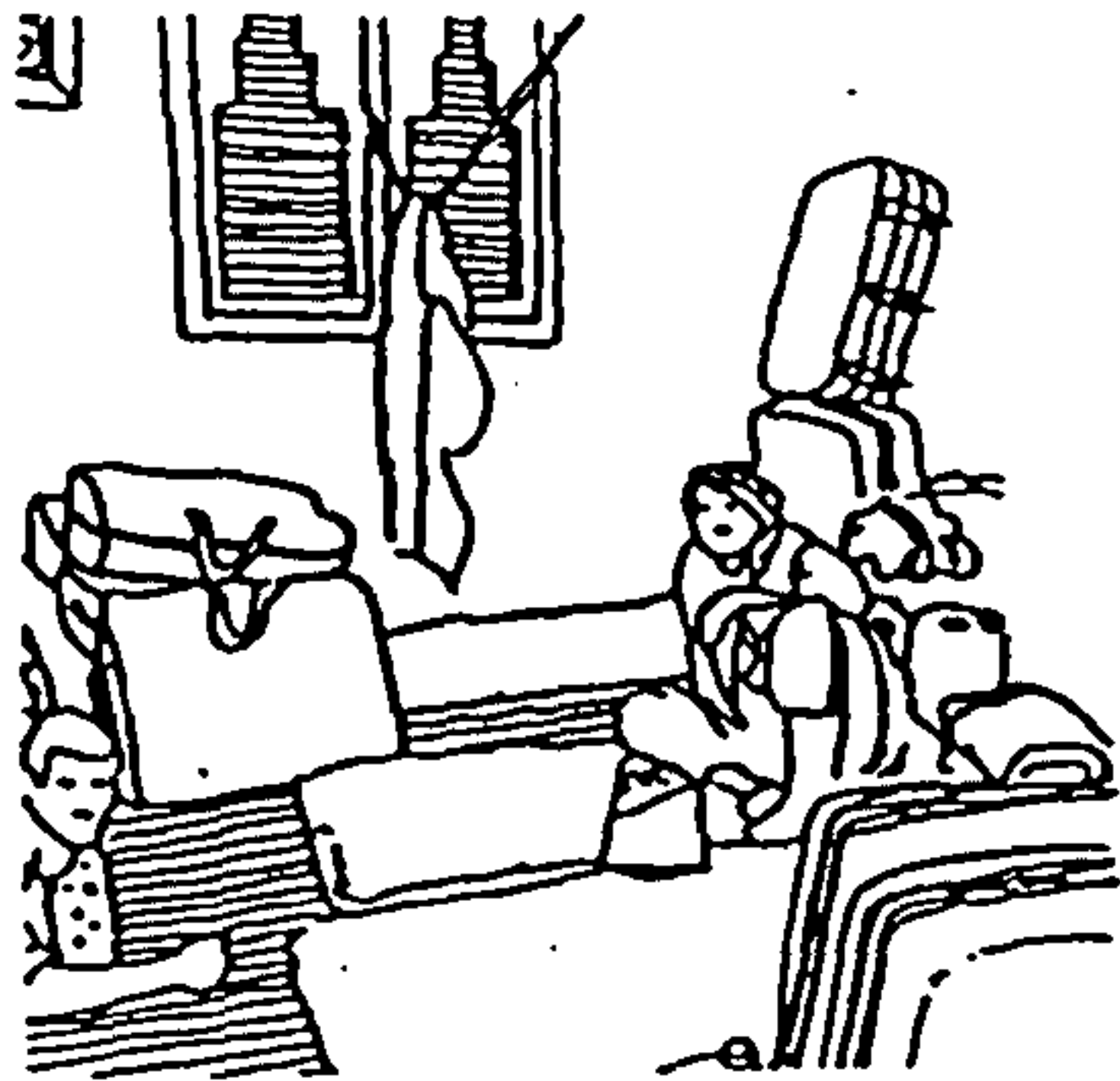
S.16 Building Number 8/3

Building No.8/3 “Waqf Al Kady” is a commercial / residential building. The front of the ground floor is an open plan commercial area where the back side is occupied by the entrance (wall mounted key board reception) (d), the guard room, the staircase and elevator for the upper residential floors. The typical plan of the residential floors was originally divided into 3 apartments (2 of them are symmetrical). Each of the apartments consists of sitting room, 2 bedrooms, kitchen and two bathrooms (a). All rooms (including the sitting rooms) were used during pilgrimage season as bedrooms. Due to the shortage of storage and washing areas, the rooms were for storage and clothes drying areas in addition to sleeping area (e). Similarly pilgrims used the kitchens mainly for washing and drying space rather than for cooking (f).

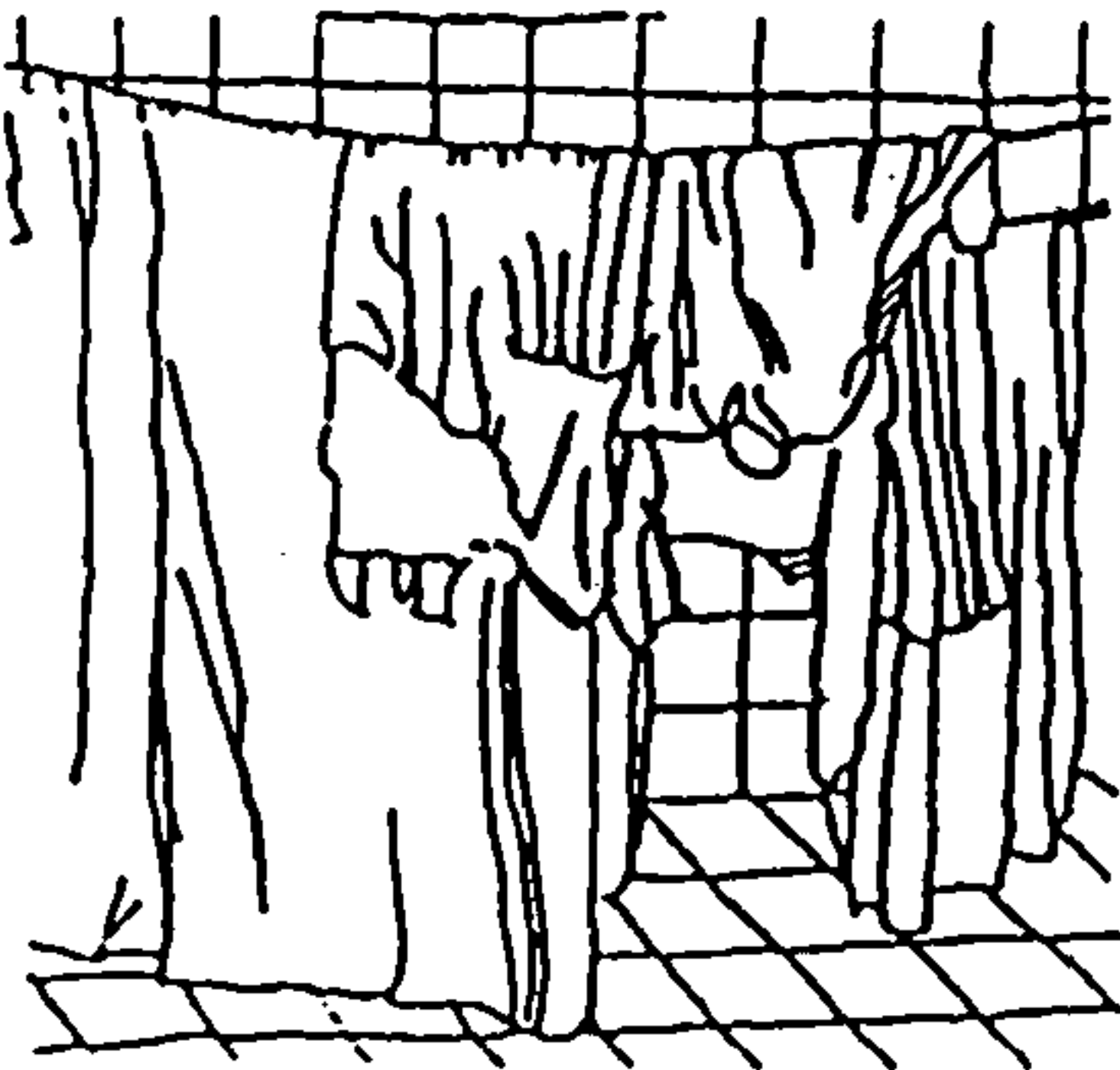
Fig C.16



(d) Reception area



(e) Typical bedroom

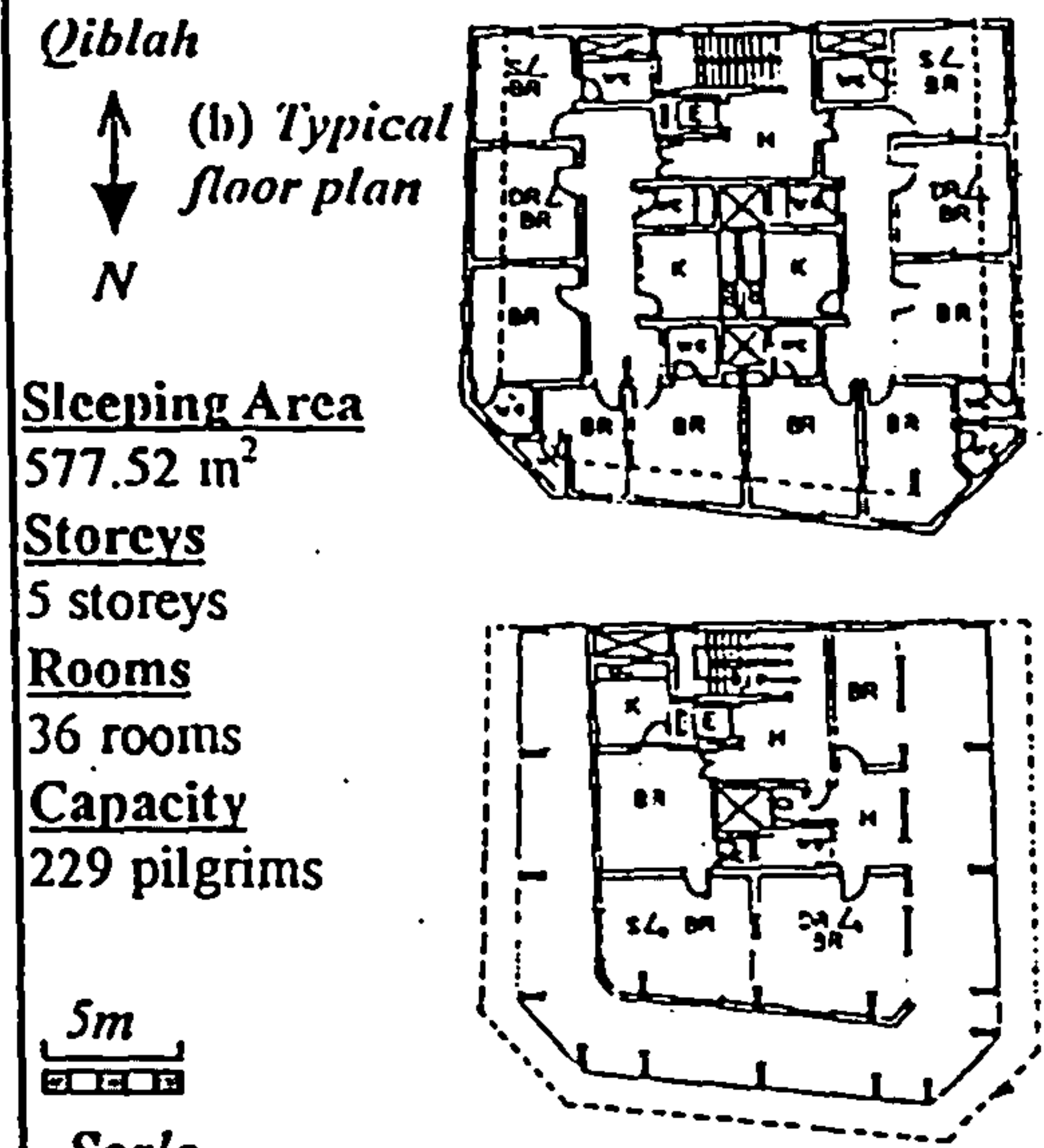


(f) kitchen - as a place
for washing and drying

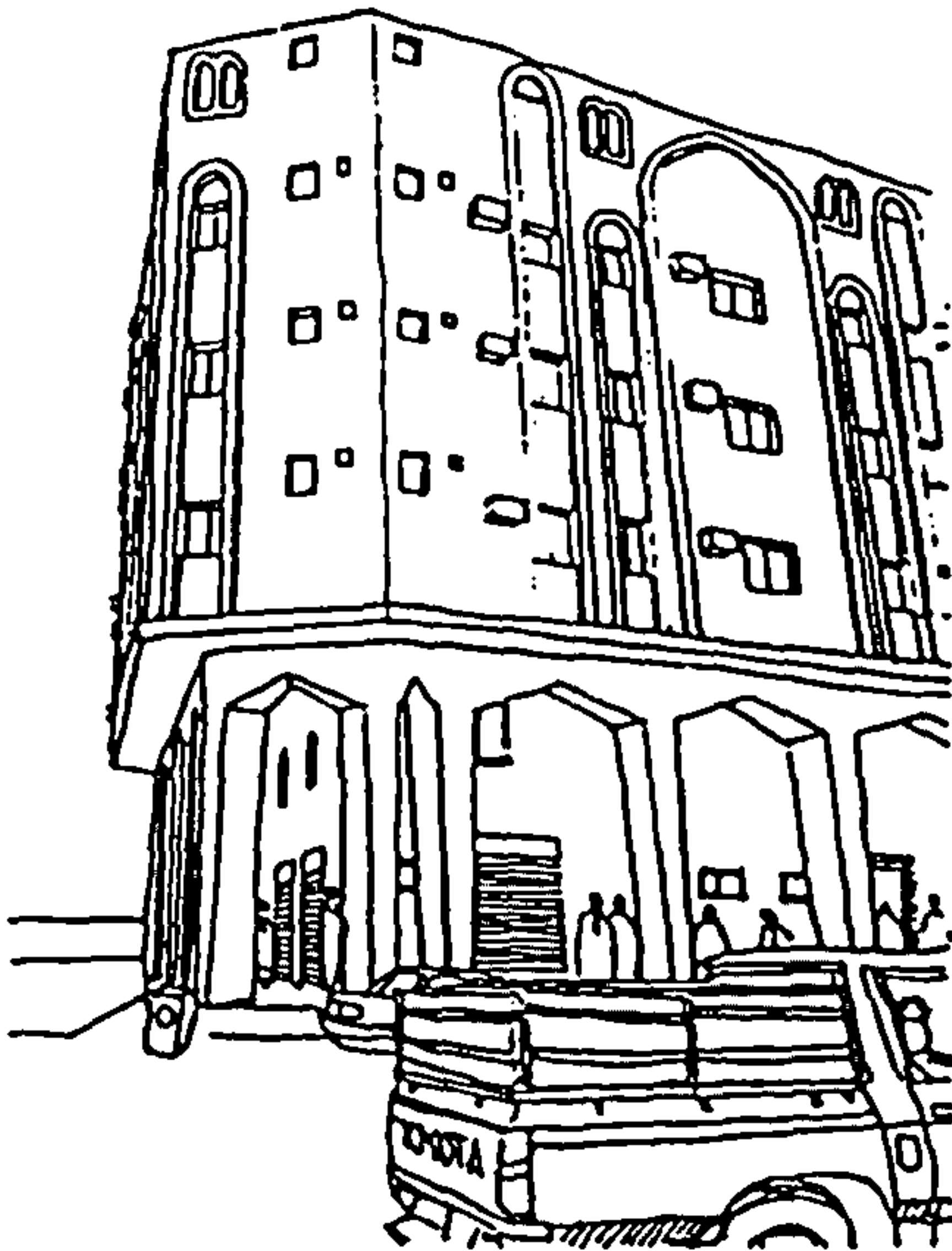
S.17 Building Number 9/3

Building No.9/3 “Fasial Mekered Building” is a commercial / residential building. The use of an arcade provides a shaded pedestrian walk way for three side of the building. The ground floor is divided into outside shops and a reception hall inside (b). The upper floors are mostly divided into two symmetrical large apartments (a). Each originally contained a sitting room, dining room, three bedrooms with toilet for each, kitchen and two bathrooms. The sitting rooms and dining rooms were changed to bedrooms by furnishing them with light sleeping cushions. The temporary provision of kitchen equipment led to their poor fitting (f). The external marble elevations are attractive because of arcades, but these pointed arches conflict with the curved arches been used on the rest of the facades (c).

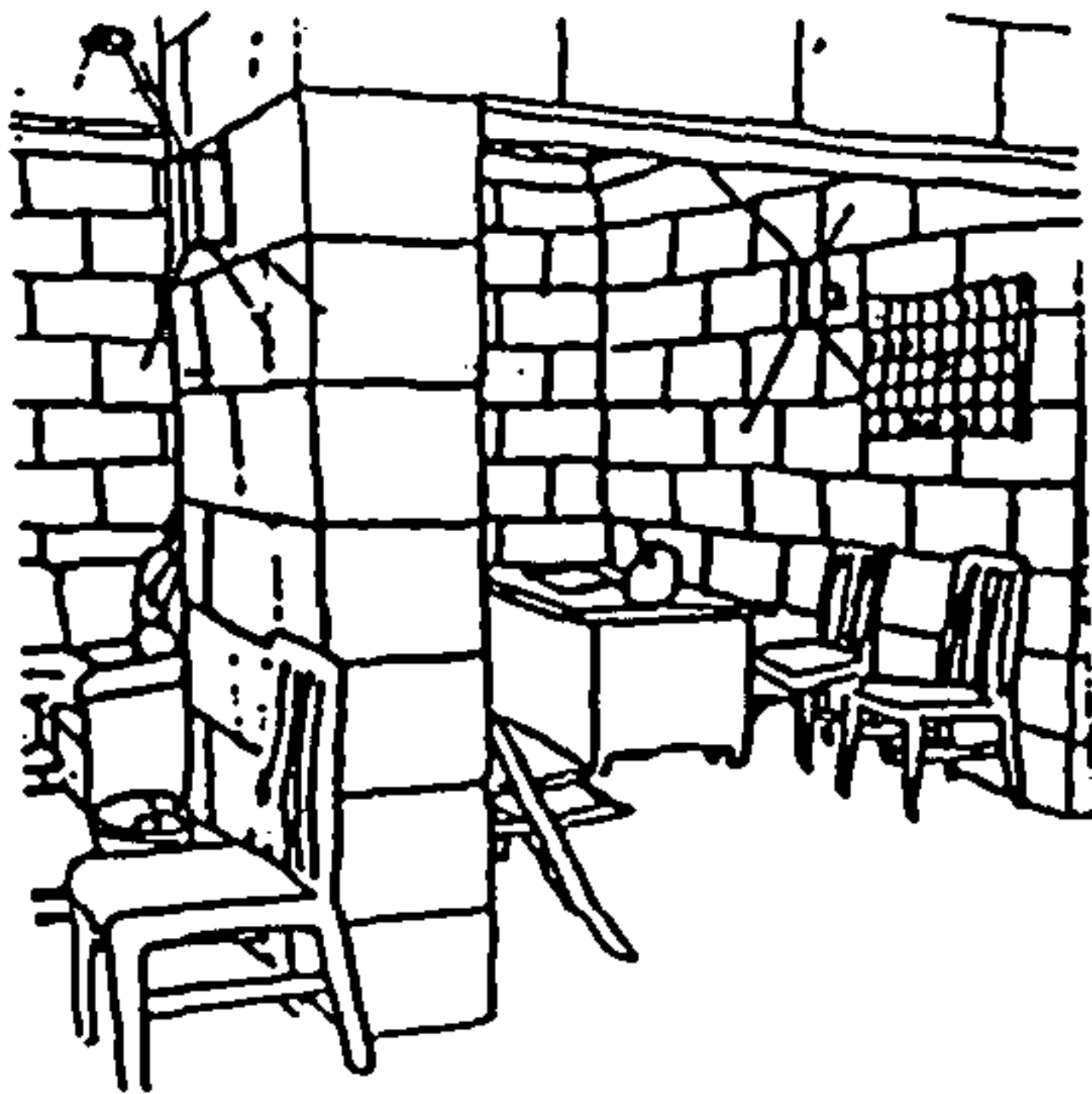
Fig C. 17



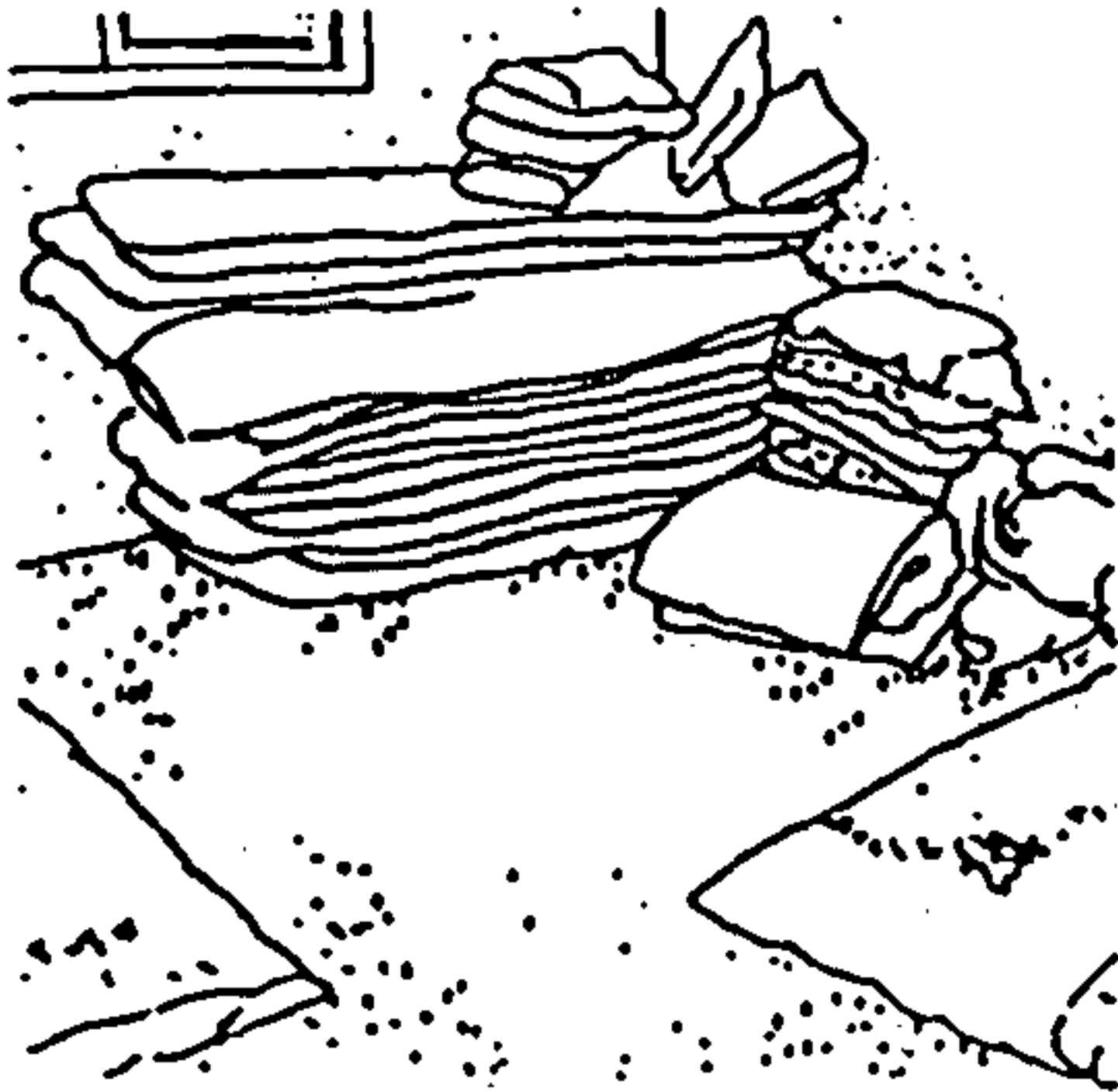
(a) Ground floor plan



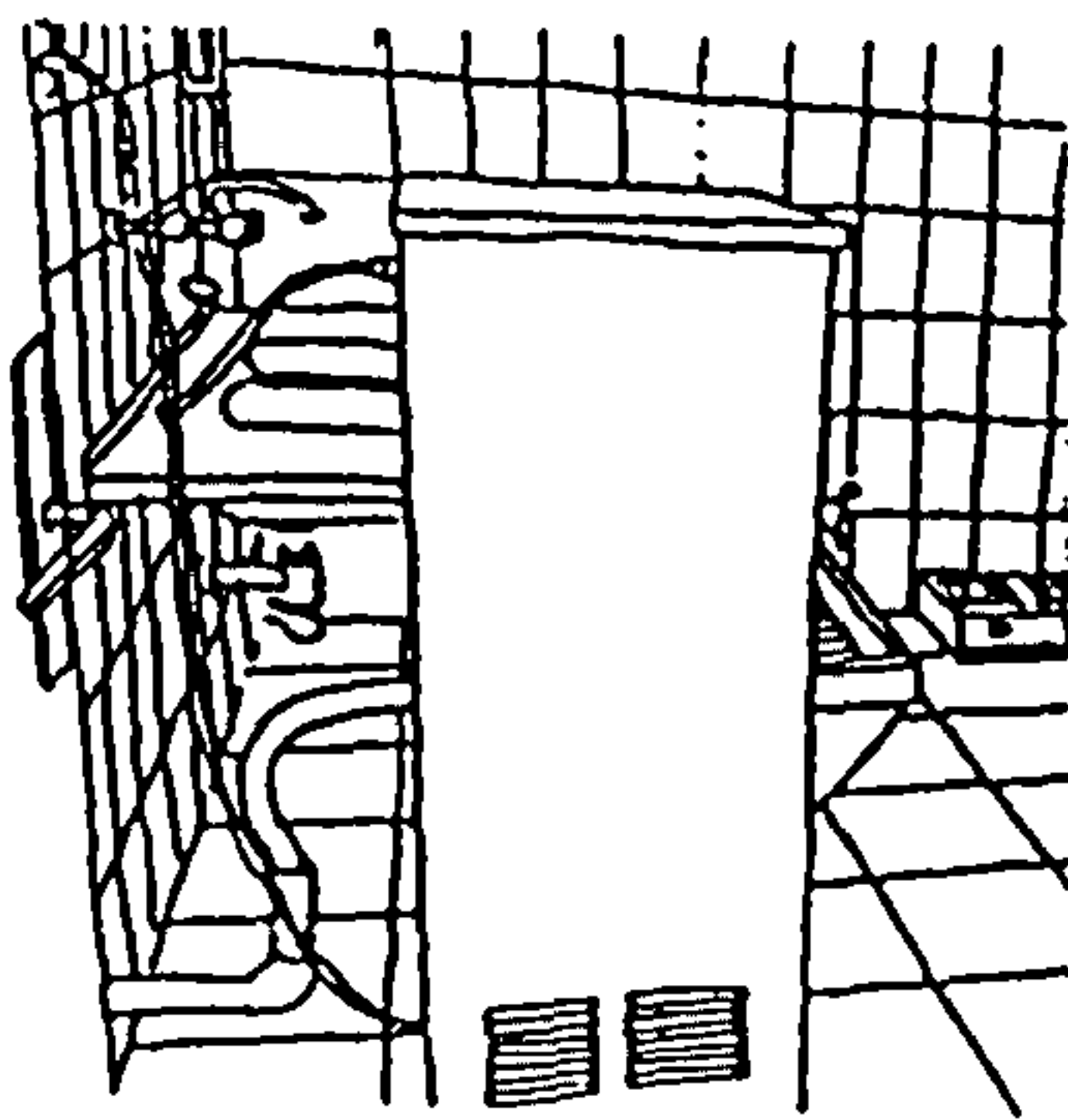
(c) Building exterior view



(d) Reception area



(e) Typical bedroom

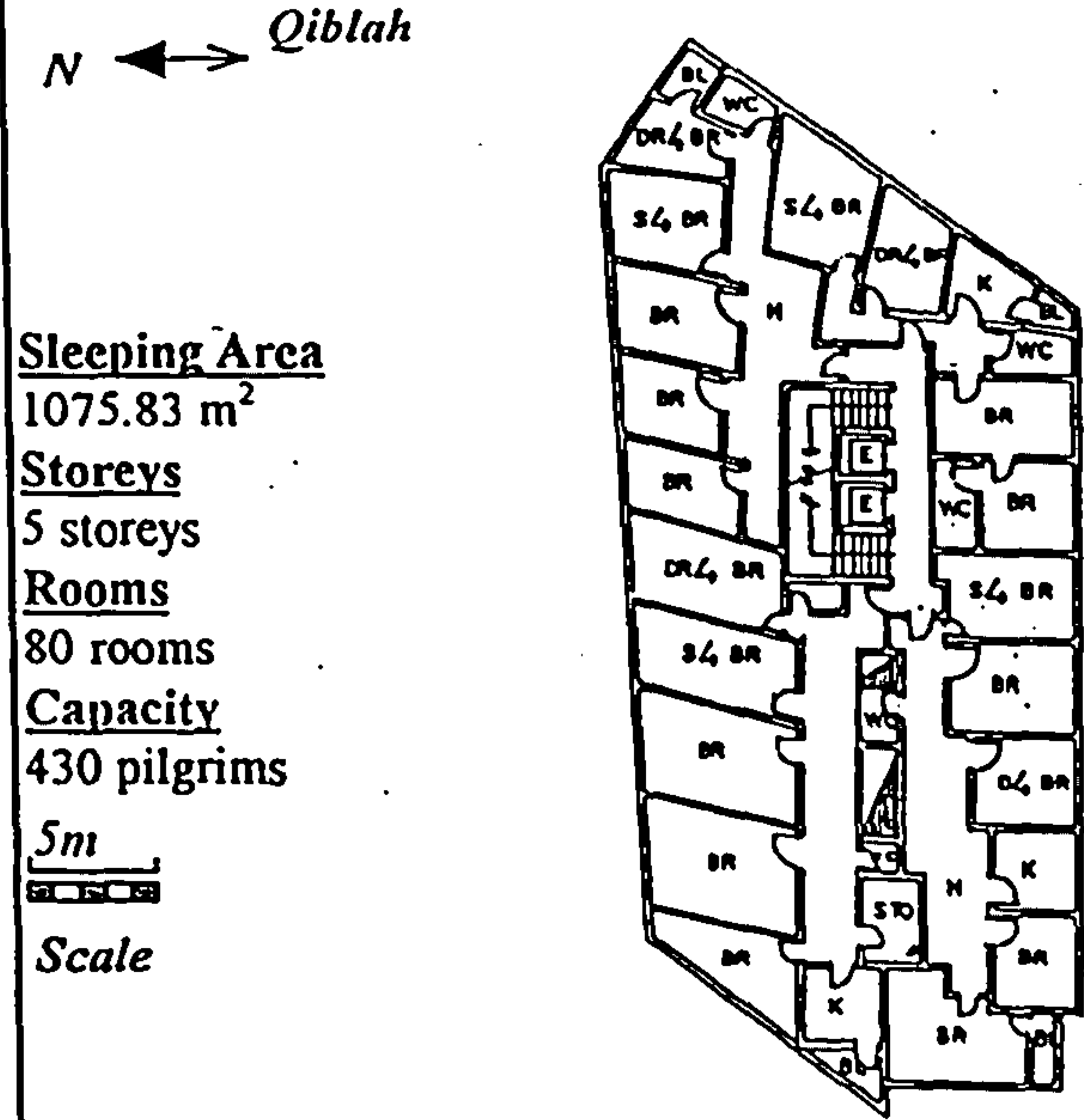


(f) Typical kitchen - temporary equipment's provision

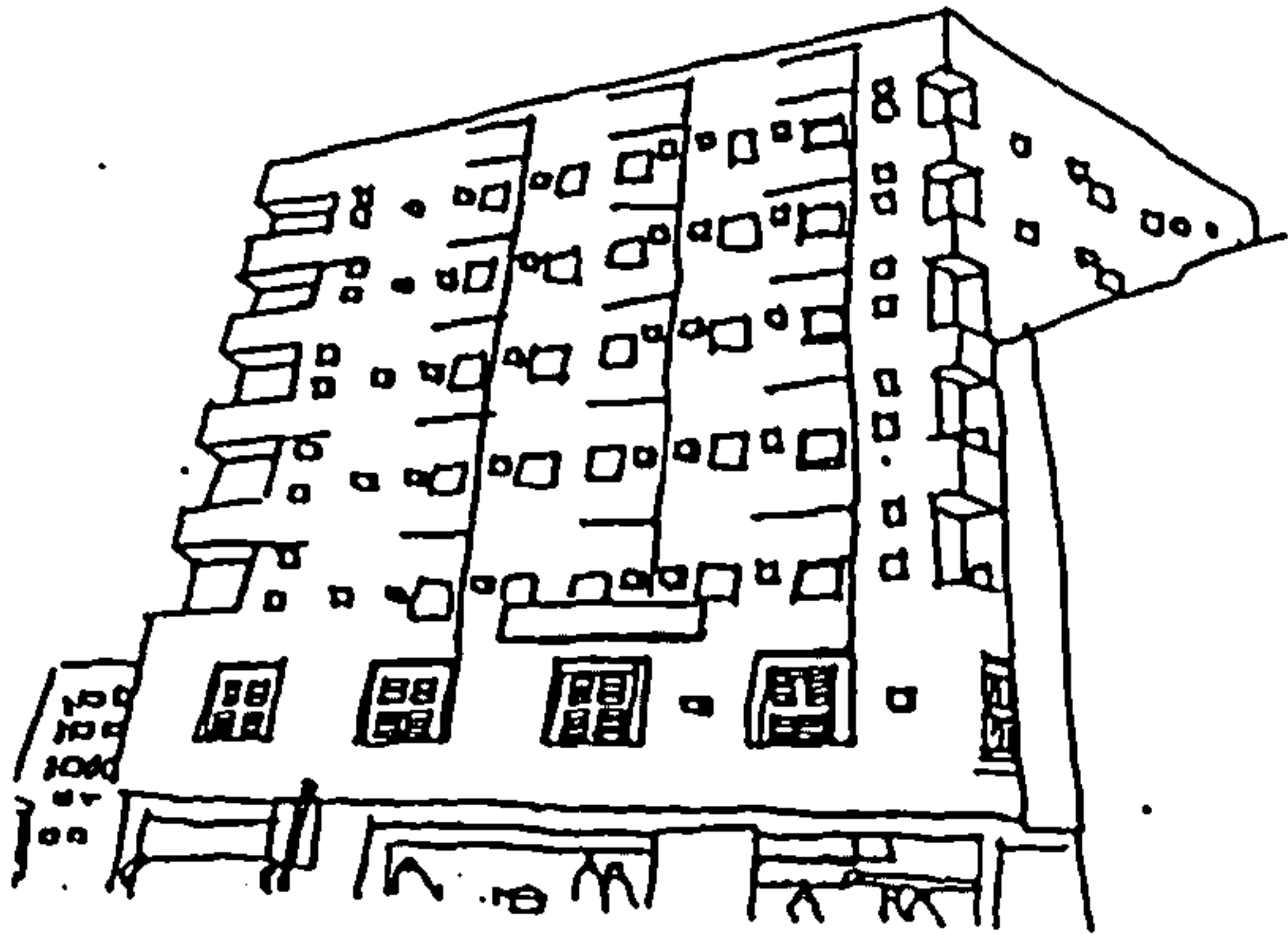
S.18 Building Number 1/4

Building No.1/4 “Al Taer group for Visitors” is a 7 storey commercial / office/ residential building. The ground floor is divided into a number of shops while the second floor consists of offices. The irregular shape of the site influences the layout of the interior. The typical residential floor is divided into four apartments. Each of these apartments mainly consists of a sitting room, dining room, a number of bedrooms (2-3 bedrooms), kitchen and 2 toilets. The design of the apartment is characterised by arranging the rooms along long corridors. The bedrooms are furnished by 3 single beds, dining table, T.V., carpet and curtains. Kitchens consist of sink, steel table bin and hot plates. The main elevation reflects the differentiation in the opening between the three types of function levels (commercial, office and residential levels) (b).

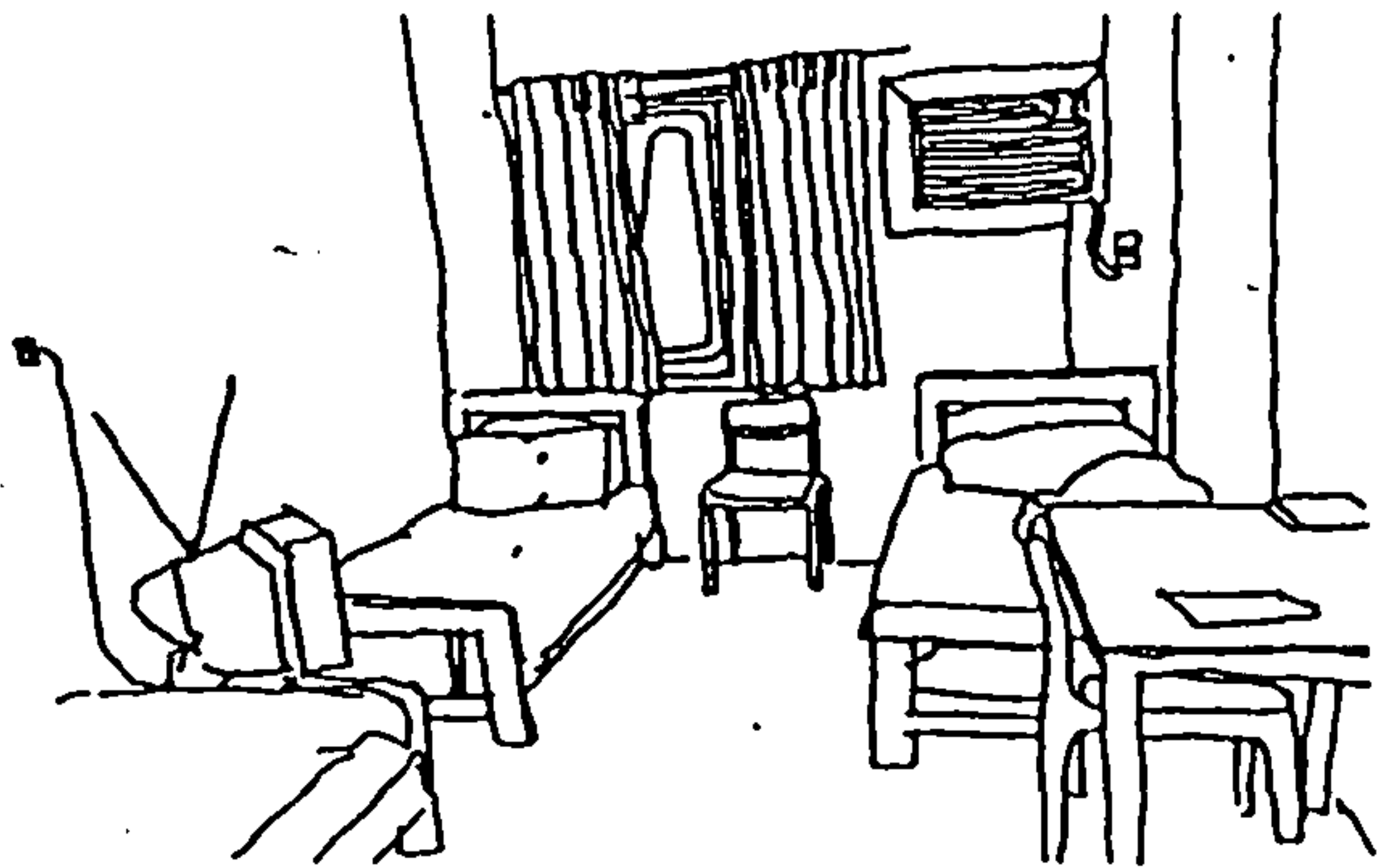
Fig C.18



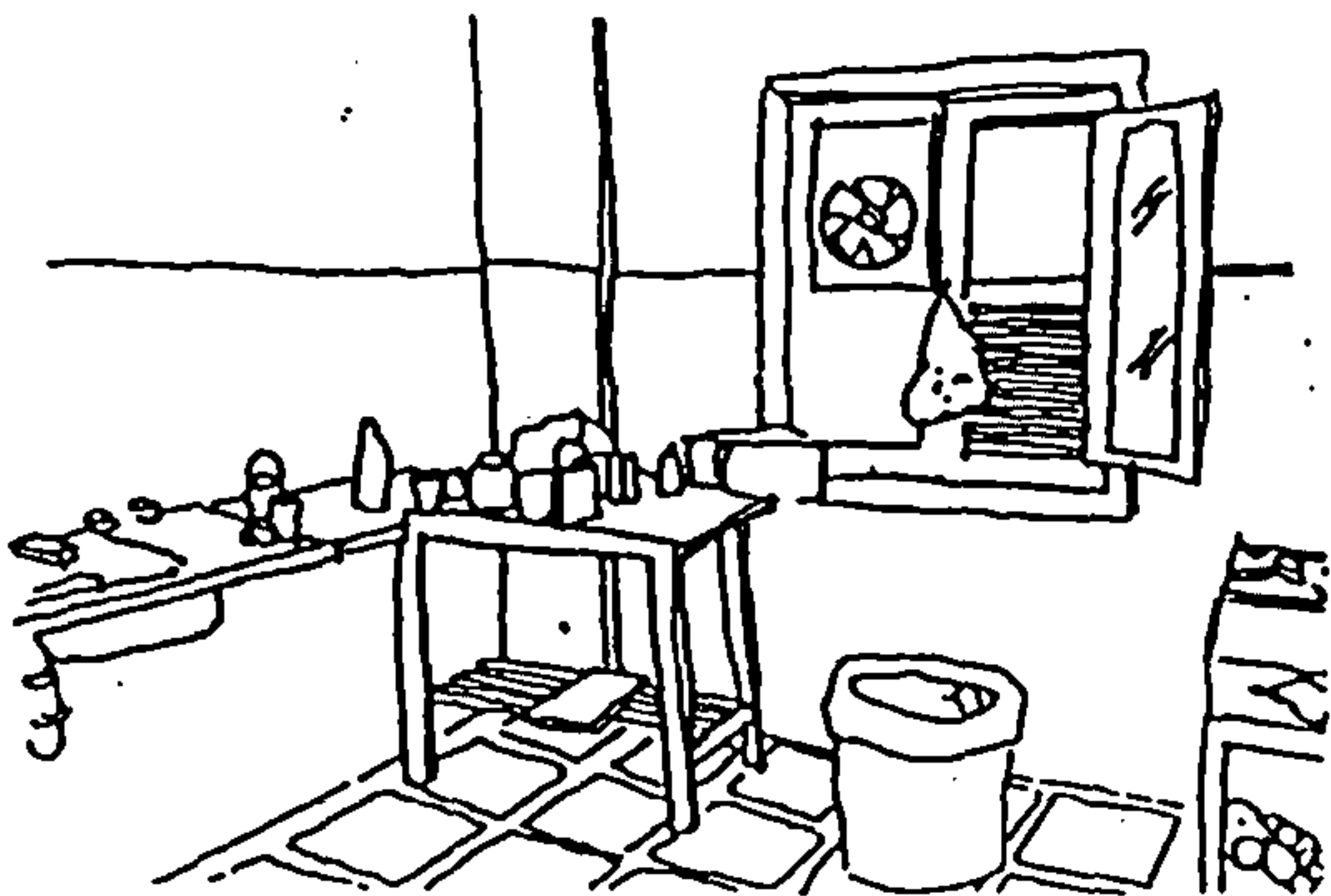
(a) Typical residential floor plan



(b) Building exterior view



(c) Typical bedroom

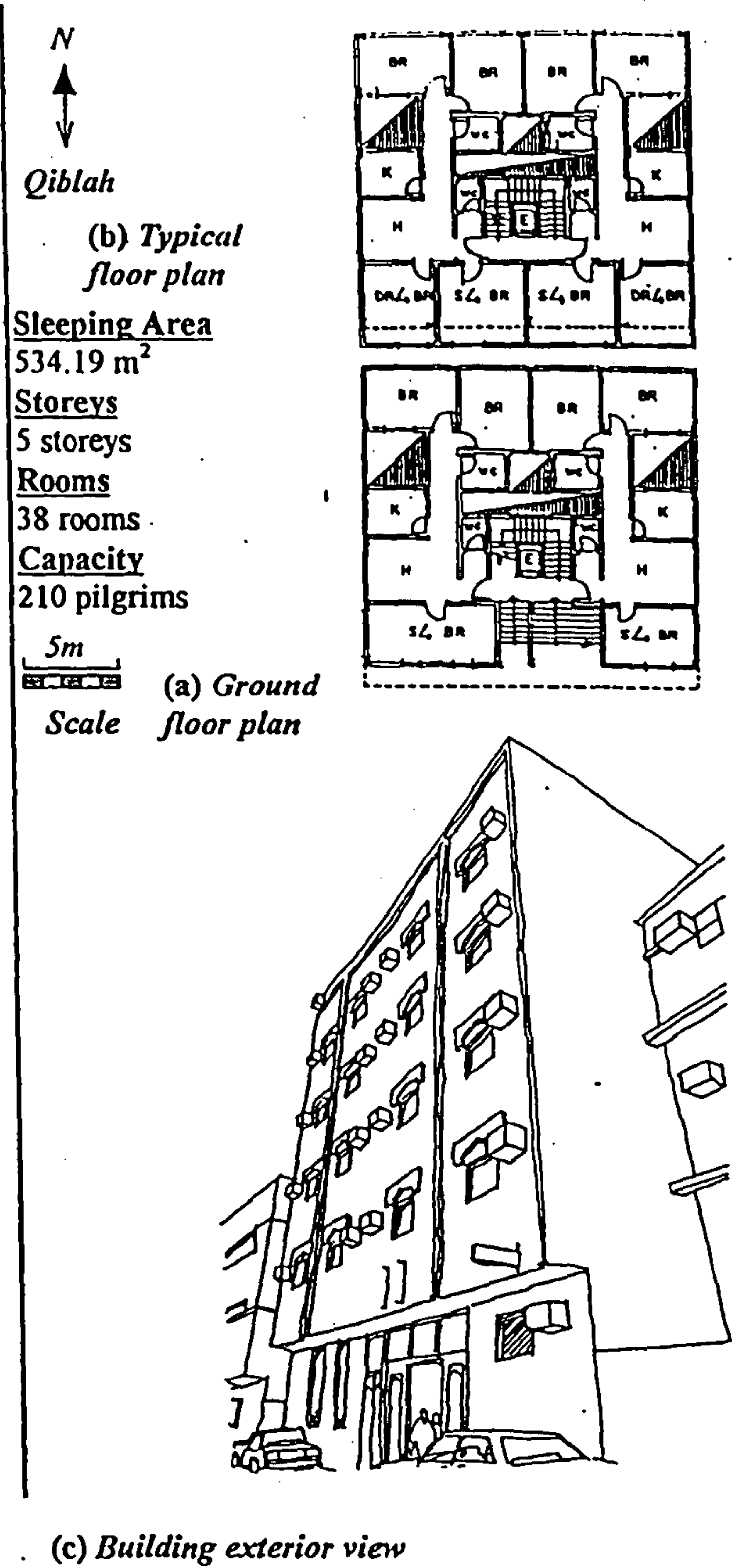


(d) Typical kitchen

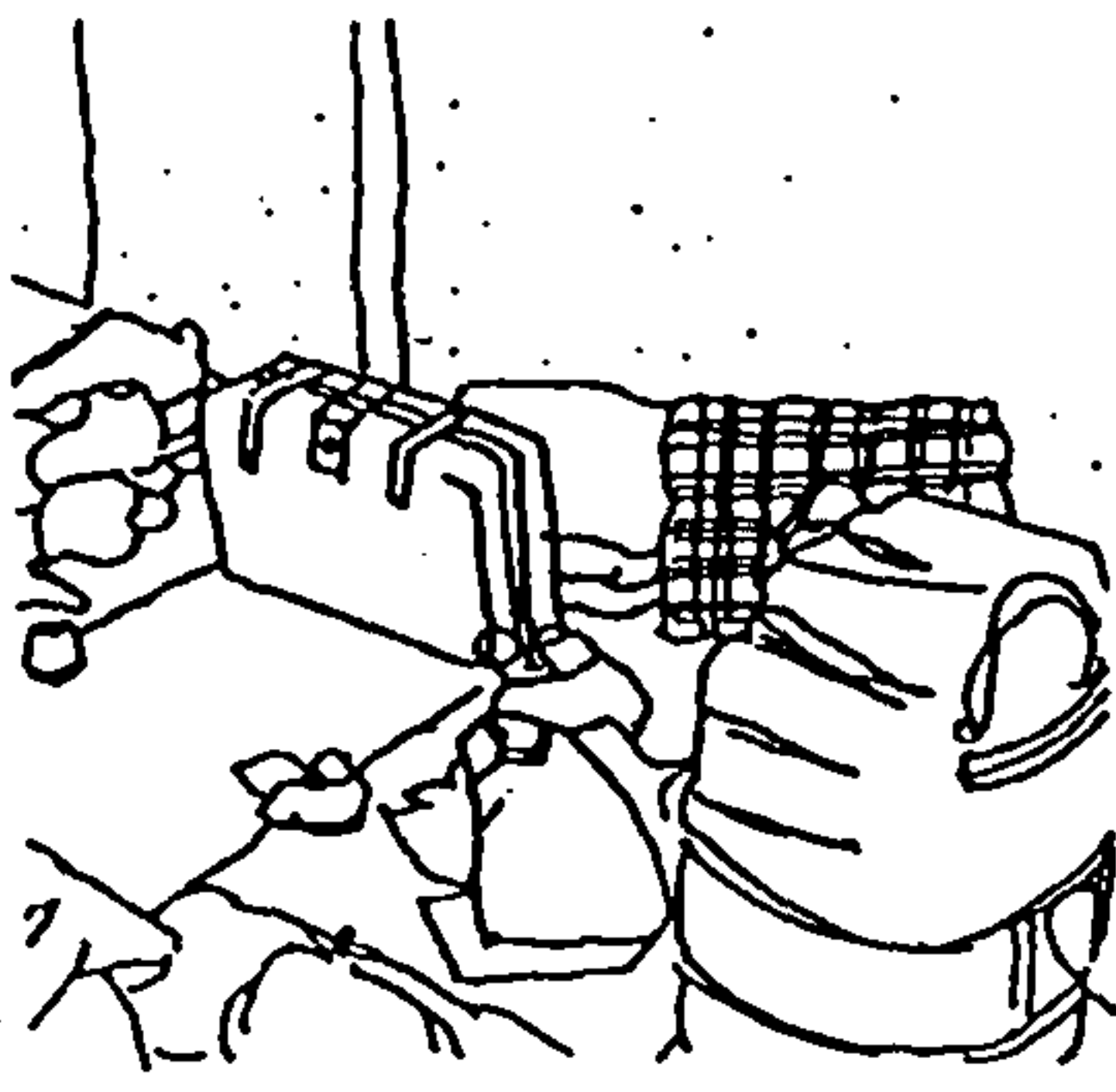
S.19 Building Number 2/4

Building No. 2/4 “ Waqef Al Hajar” is a residential building. The ground floor is divided into two approximately symmetrical apartments. Each of them consists of a sitting room, bathroom, hall, 2 bedrooms, kitchen and family toilet (b). The other floors are the same as the ground floor except that the space over the main entrance is used as a dining room (a). A coin-operated soft drink machine is provided as a necessity for the hot temperature. Halls are used as washing and drying space due to the lack of washing and drying machines. The main elevation is characterised by exposed window beams over the window as protection and decoration rather than for shading reasons. A sign saying “We have a coin telephone” was fitted on the external wall demonstrating the need for and shortage of public telephones.

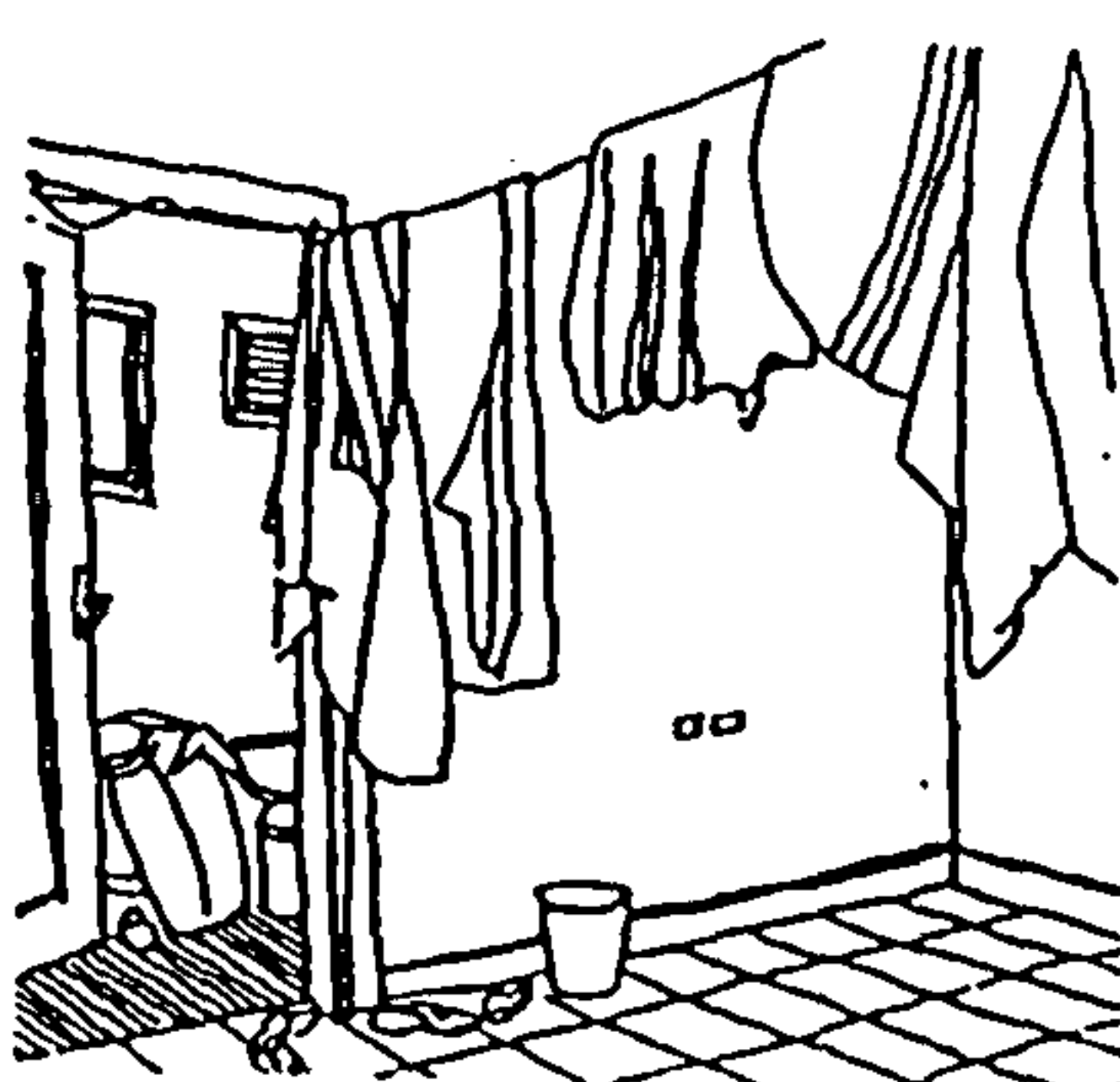
Fig C.19



(d) Main entrance



(e) Typical bedroom

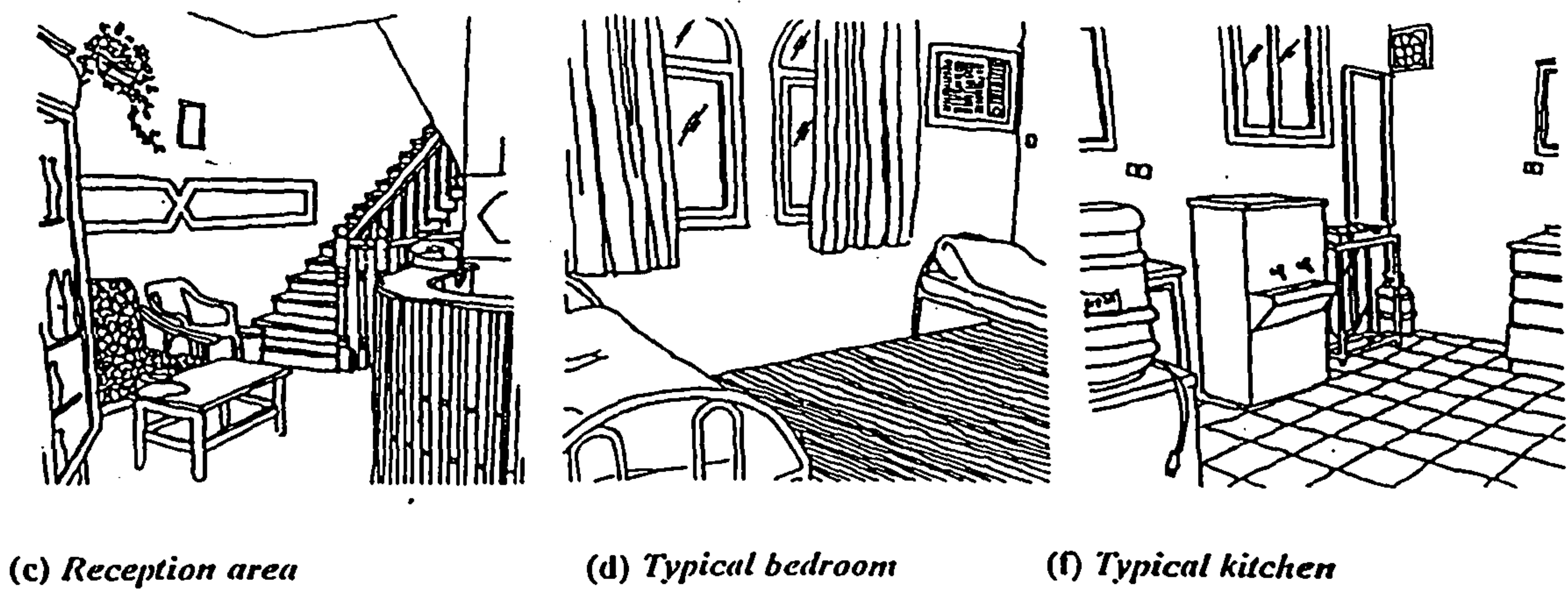
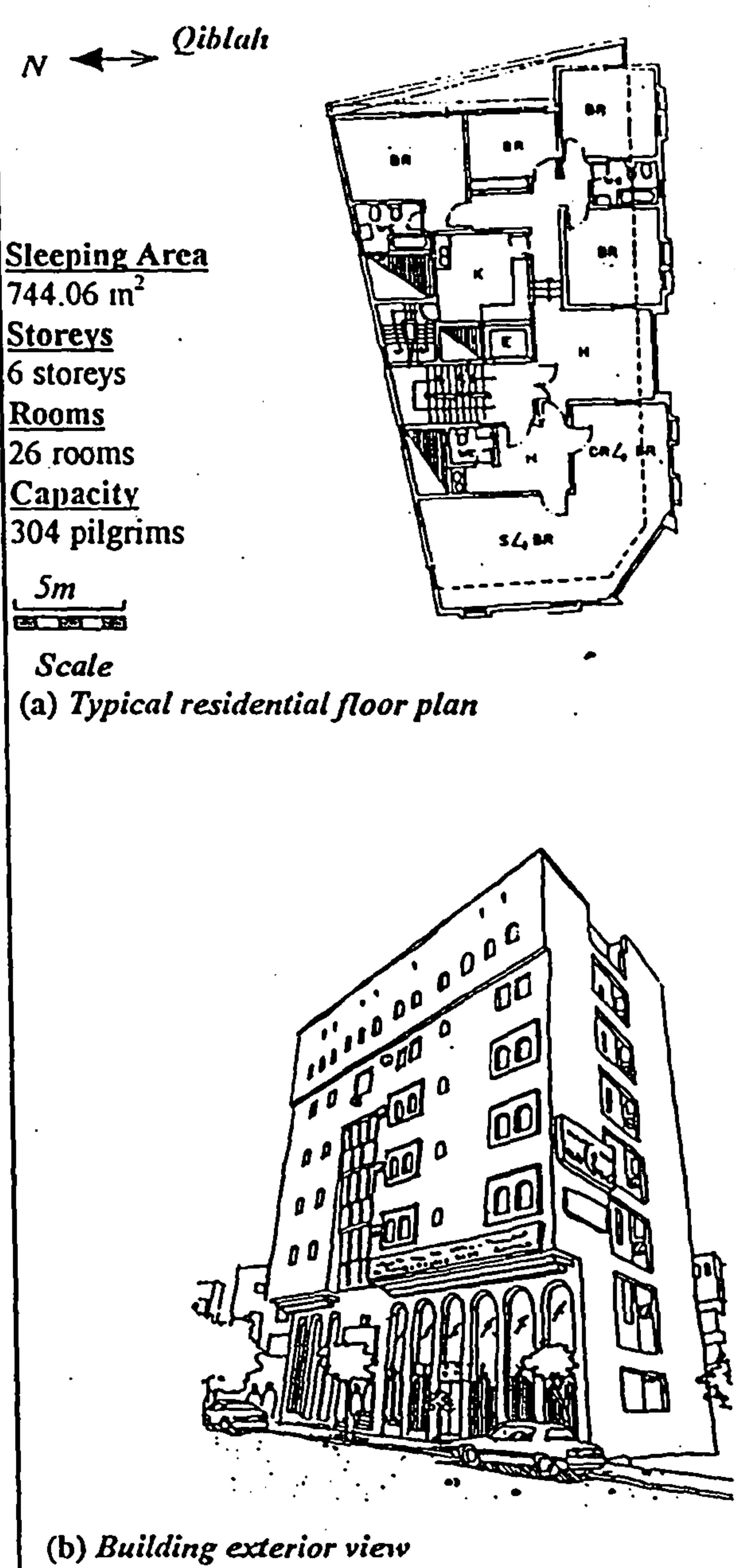


(f) Apartment's hall

S.20 Building Number 3/4

Building No. 3/4 “Assad for Visitors” is a commercial / residential building. The ground floor, in addition to the shops, contains the counter reception and waiting area (c). The typical residential floors consists of: 1) the guest quarters with the sitting room, dining room, hall, men’s toilet and washing area and 2) the family quarters which contain a main hall, master bedroom with toilet, 3 small bedrooms , toilet and kitchen. The plan shows the importance of privacy by having two separate doors for each of the two quarters and elevating the bedroom area from the main hall which could be used as a women’s reception area. All the rooms contain individual beds (d). A mixture of rectangular, and arched windows and arched windows within a rectangular frame were used to enhance the building elevation (b).

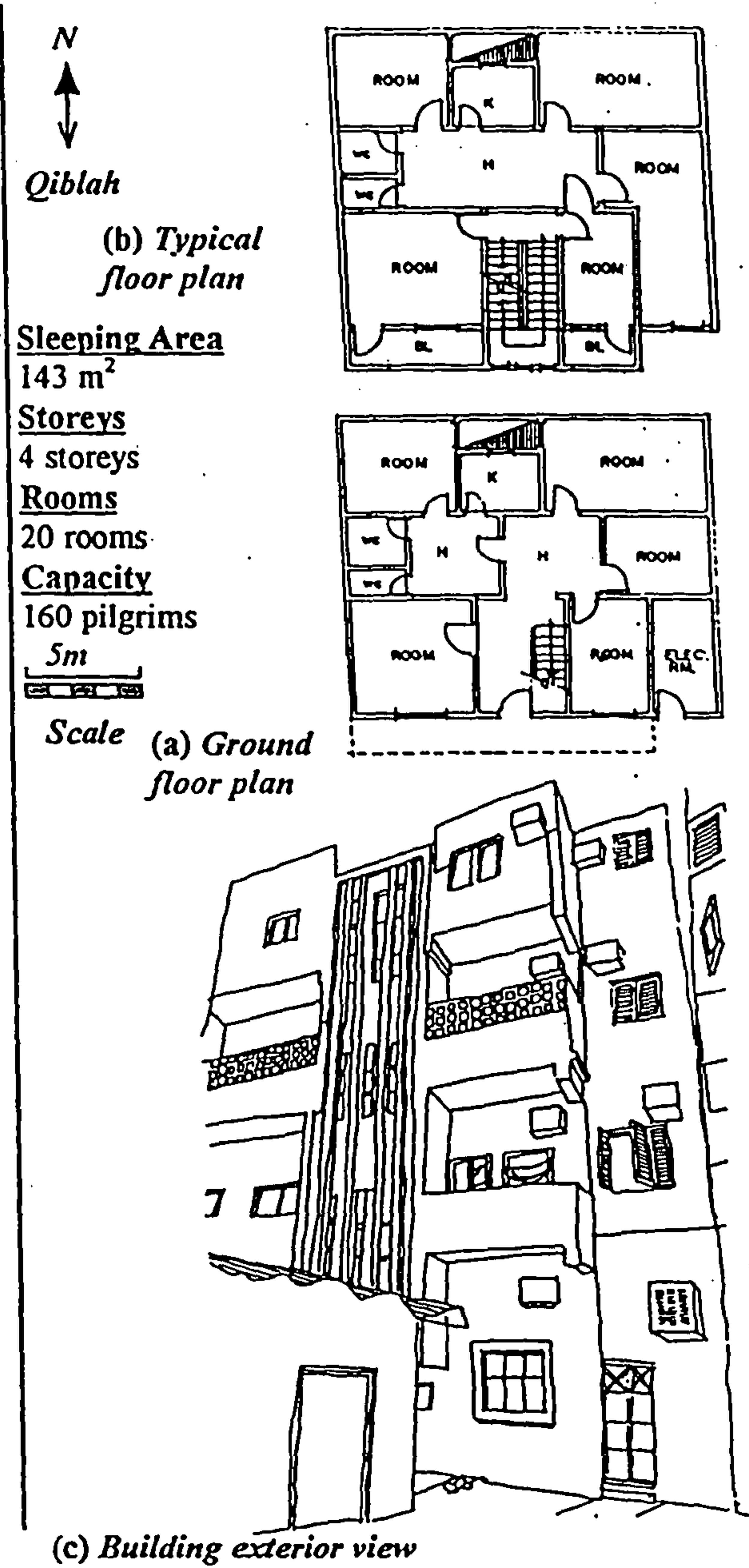
Fig C.20



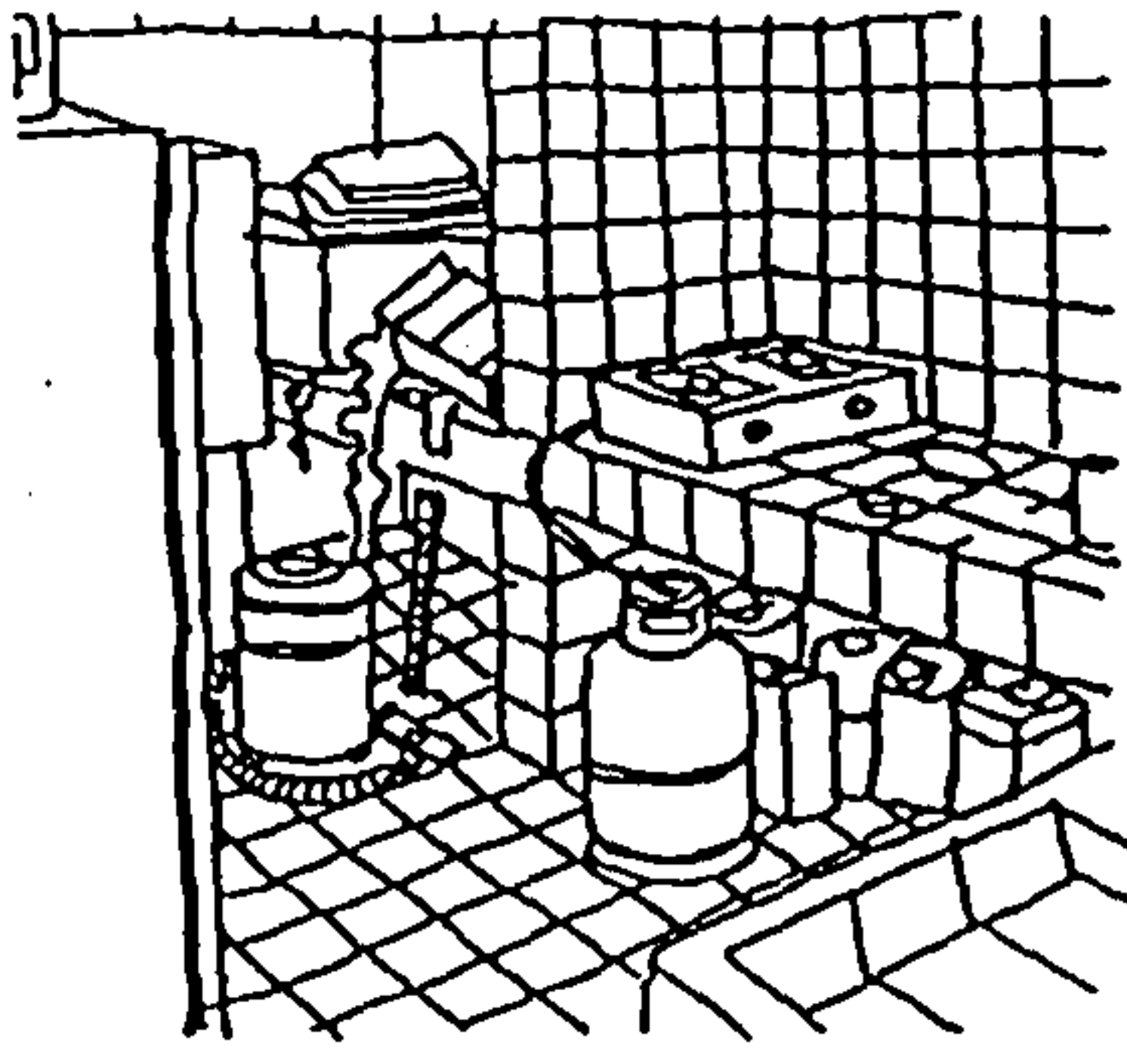
S.21 Building Number 4/4

Building No. 4/4 “Dar Ahmed Masudy” is a 3 storey residential building extended by increasing the parapet and roofing it to 4 storeys. The building was originally divided into two areas. The first area is only one big room (with a balcony for the upper floors) and the second floor has 4 rooms, kitchen, 2 toilets opening to one big hall (divided into two on the ground floor) (a, b). The building’s small entrance contains a reception counter with a fish tank which might attract certain pilgrims groups (d). The kitchen has a tiled ceramic counter (for easy cleaning), refrigerator, hot plates and vacuum cleaner (e). Privacy was emphasised both in the windows by using wooden lattice and in the balcony which is partially covered by blocks with a design using holes (c).

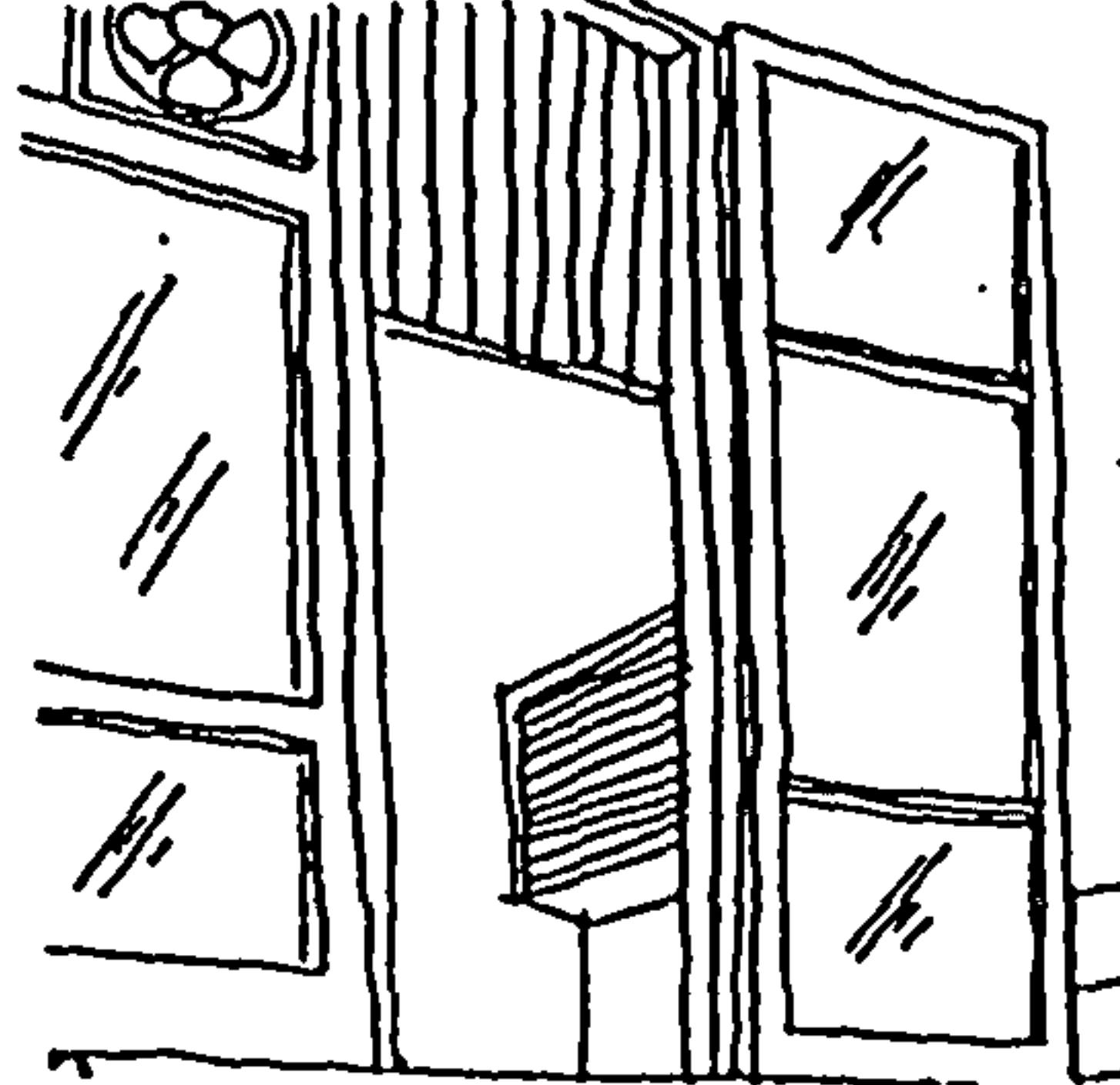
Fig C.21



(d) Reception area



(e) Typical kitchen

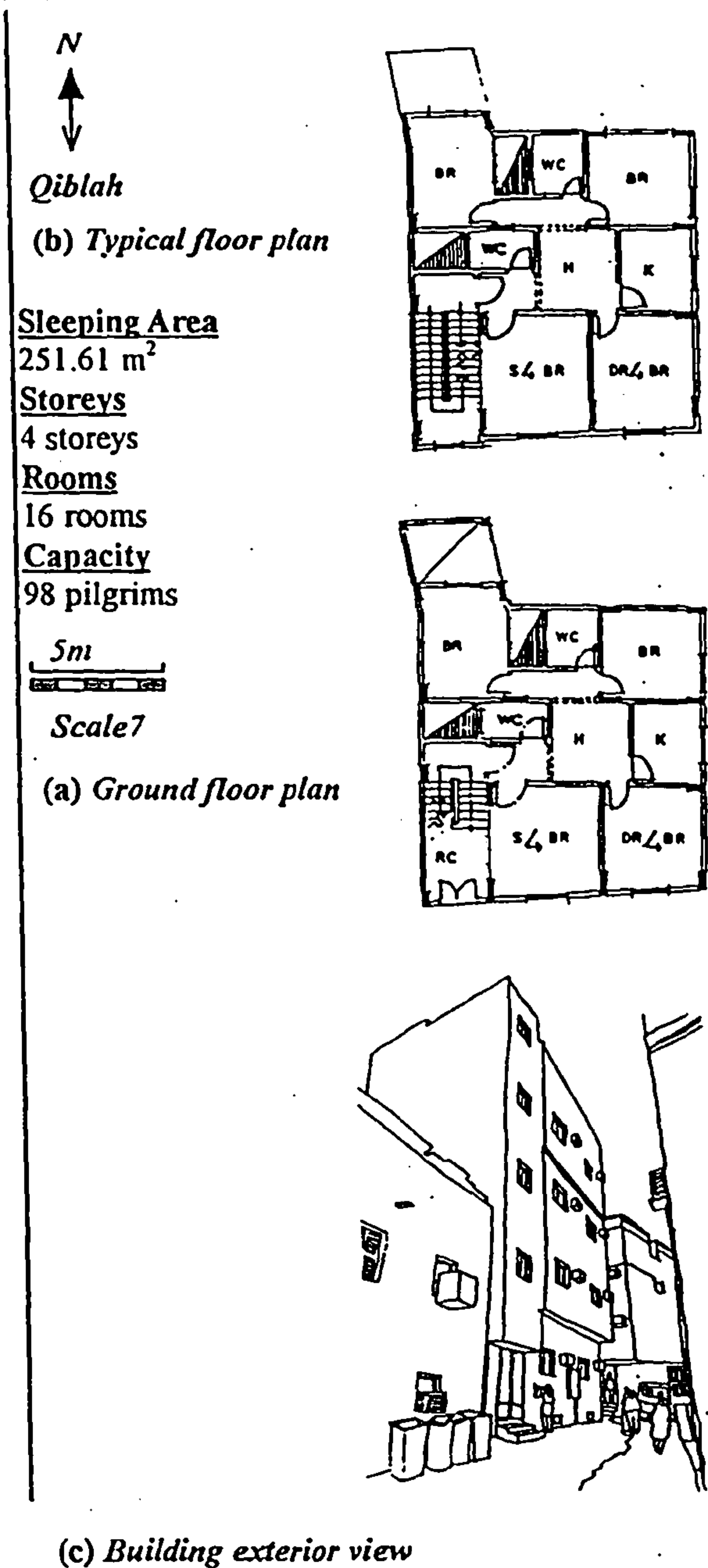


(f) Ventilation system
through the shift

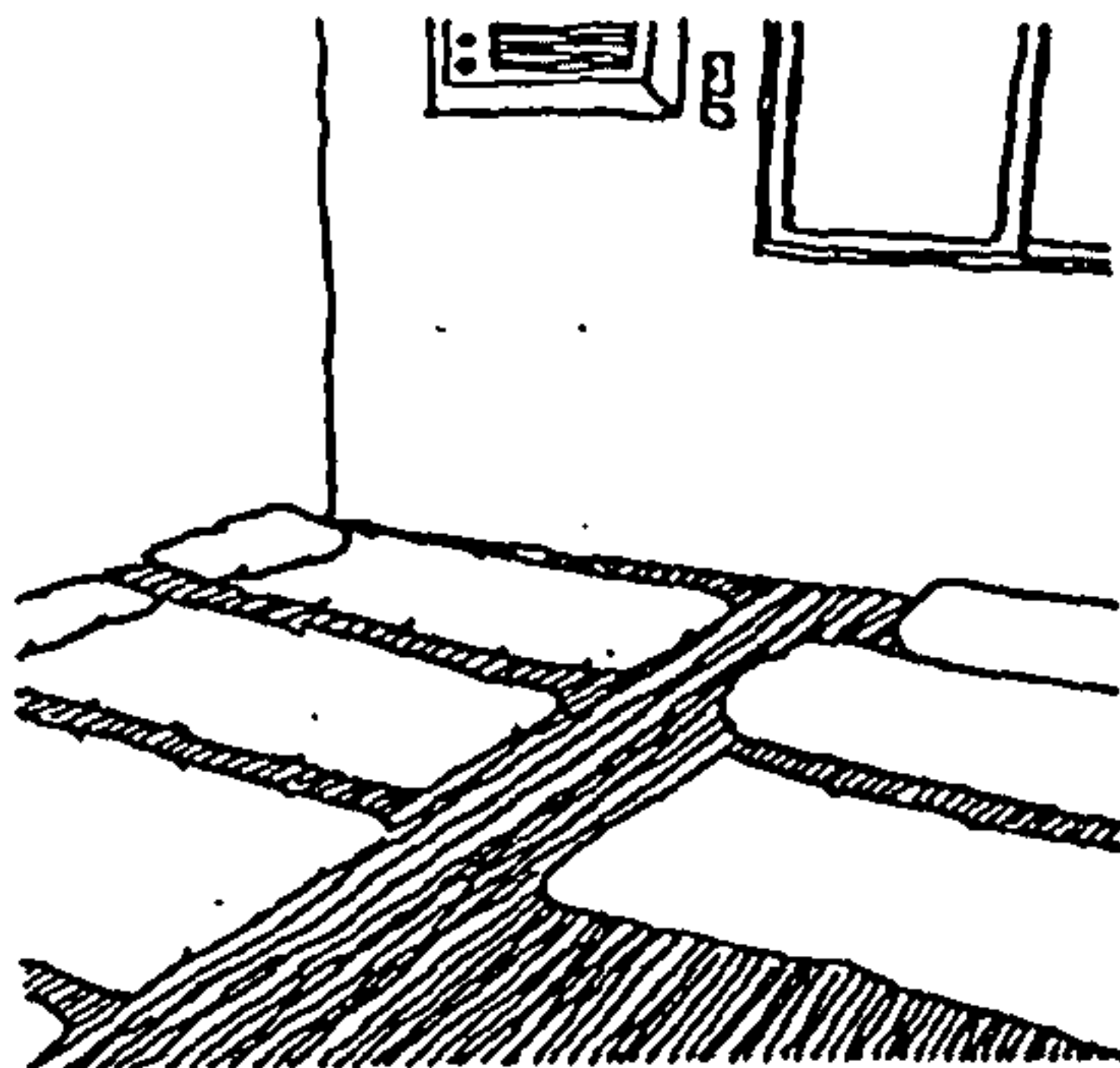
S.22 Building Number 5/4

Building No.5/4 “ Extension of Dar Al Rahmah” is a 4 storey residential building. The immediate approach to the staircase allows a small area for reception. Each floor has one apartment consisting of a sitting room, dining room, men’s bathroom, kitchen, two bedrooms, family toilets and a hall (a, b). All the rooms (including the sitting rooms and dining rooms) are furnished with sleeping-cushions and a carpet but without any curtains which results in increasing the room temperature (e). Since the building was originally for unfurnished apartments, the provision of drinking water fountains as well as the hot plates has resulted in exposed plumbing for water, drainage and gas. Private/ public telephones (coin telephone provided by the building’s owner) are fitted on the external wall (c).

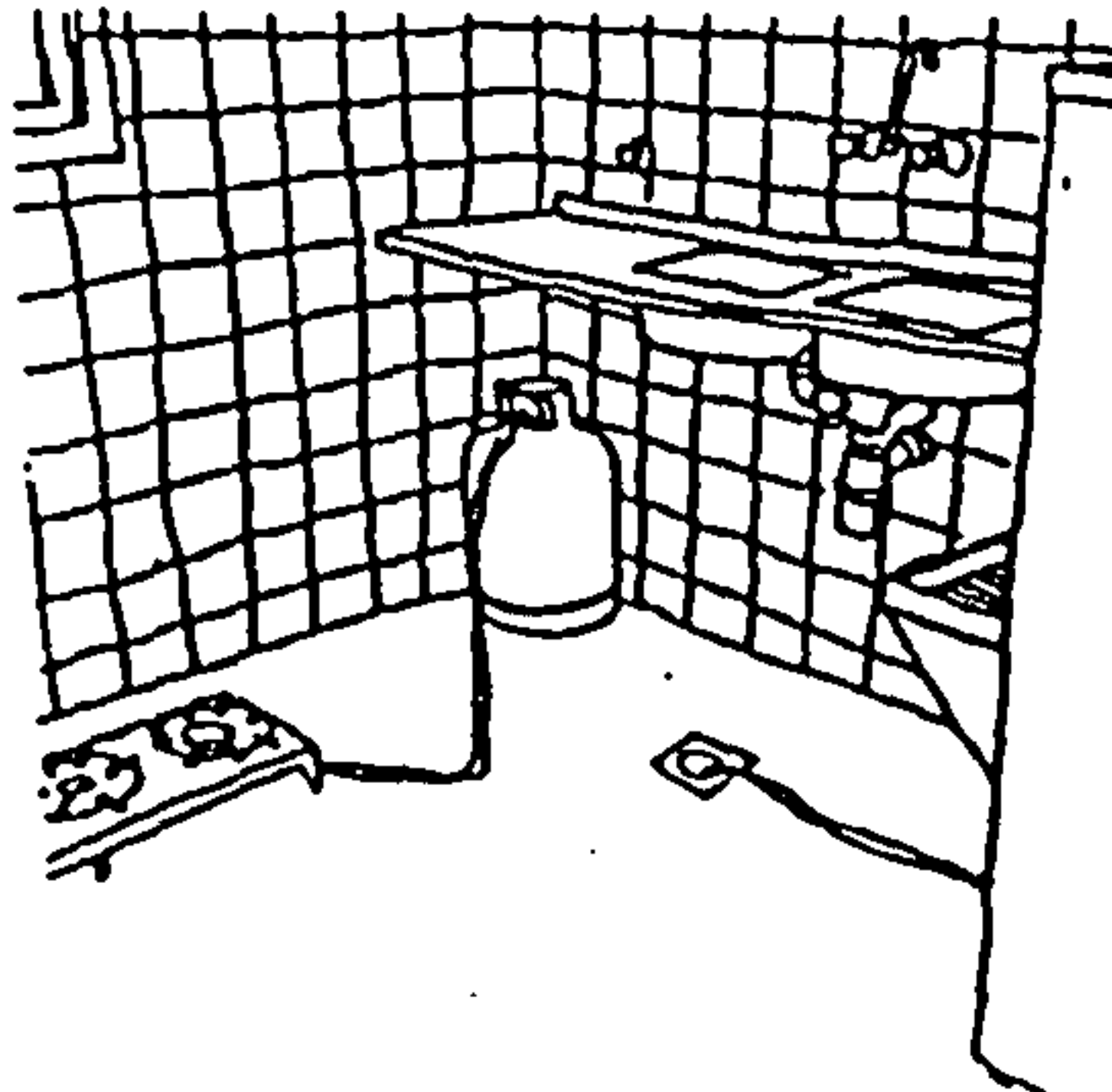
Fig C.22



(d) Reception area -
guard space



(e) Typical bedroom

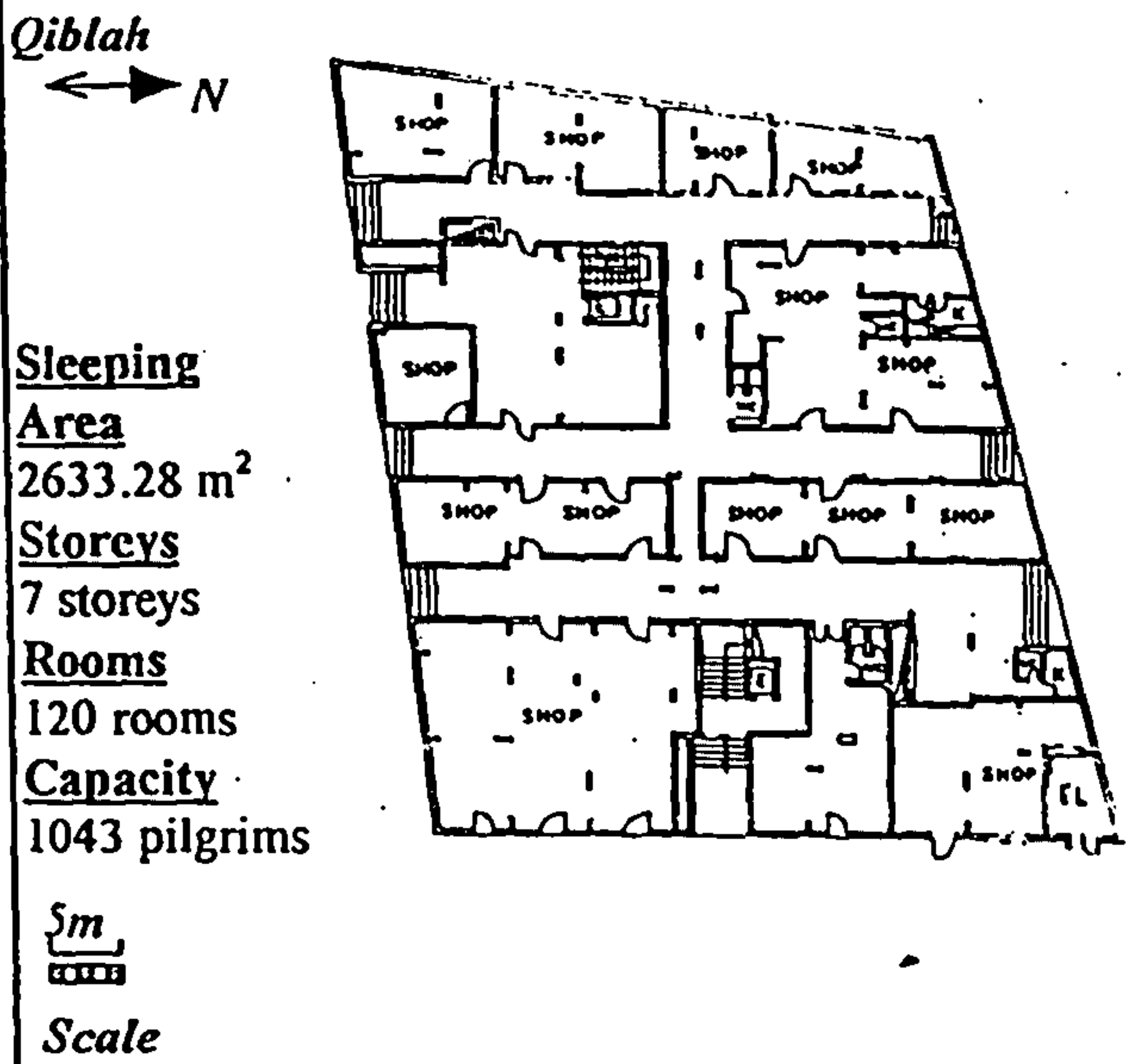


(f) Typical kitchen

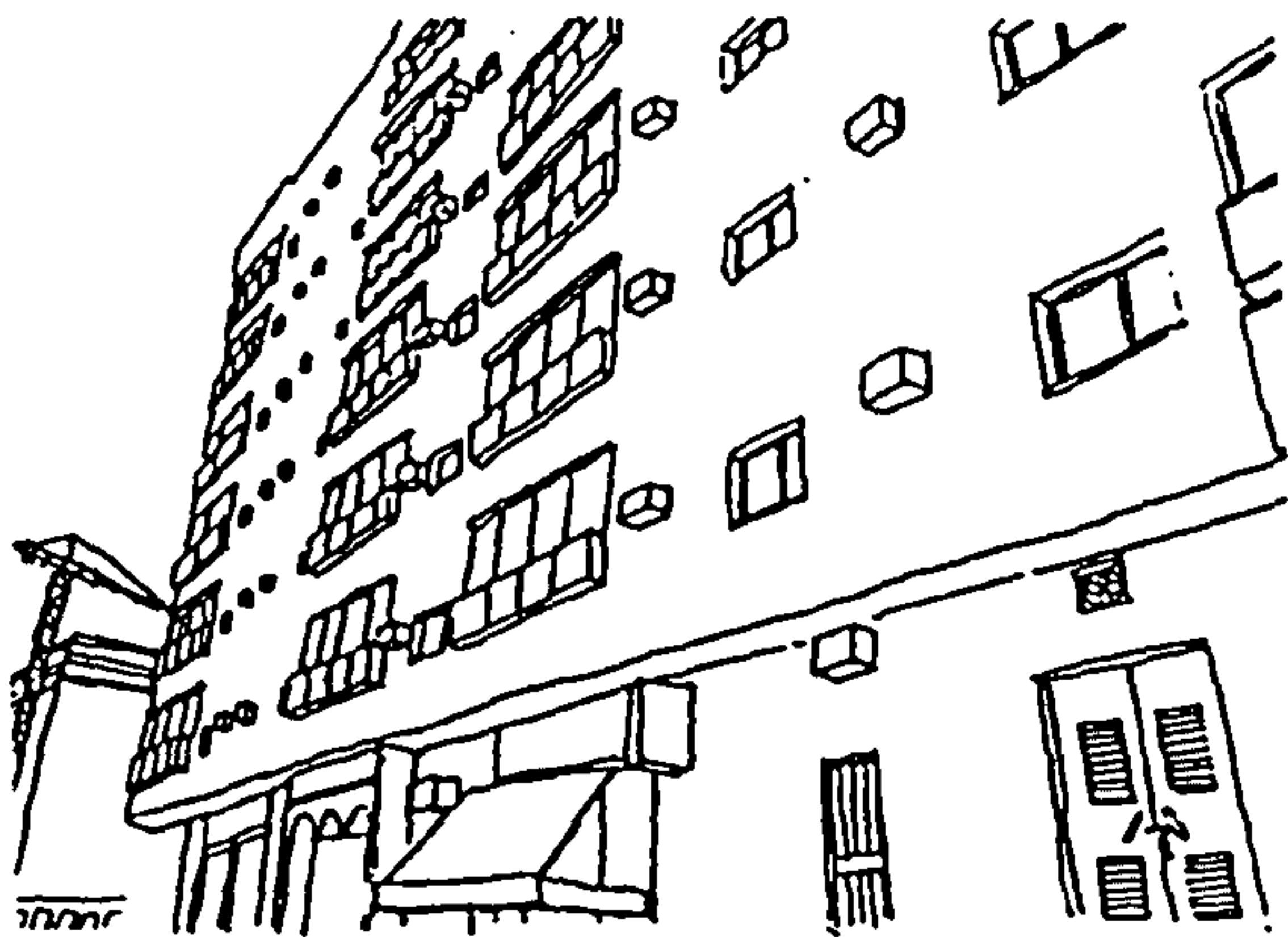
S.23 Building Number 6/4

Building No. 6/4 “ Al Sharif Abdulmalik Building” is a commercial/ residential building. Apart from the main entrance for the residential level, the ground floor is divided into individual shops creating a shopping centre (a). The layout of this centre is characterised by three main accesses (corridors) running from north to south and a linking corridor. This system provides an opportunity to expose the internal parts of the floor to the public. The upper six residential floors consist of a total of 120 bedrooms with a capacity of 1043 pilgrims. The rooms are furnished with sleeping cushions which are more flexible in storage (c). The kitchens are furnished partly with aluminium cabinets (d). The main elevation is covered in white marble while the main features are the balconies with galvanised iron screening for privacy and security (b).

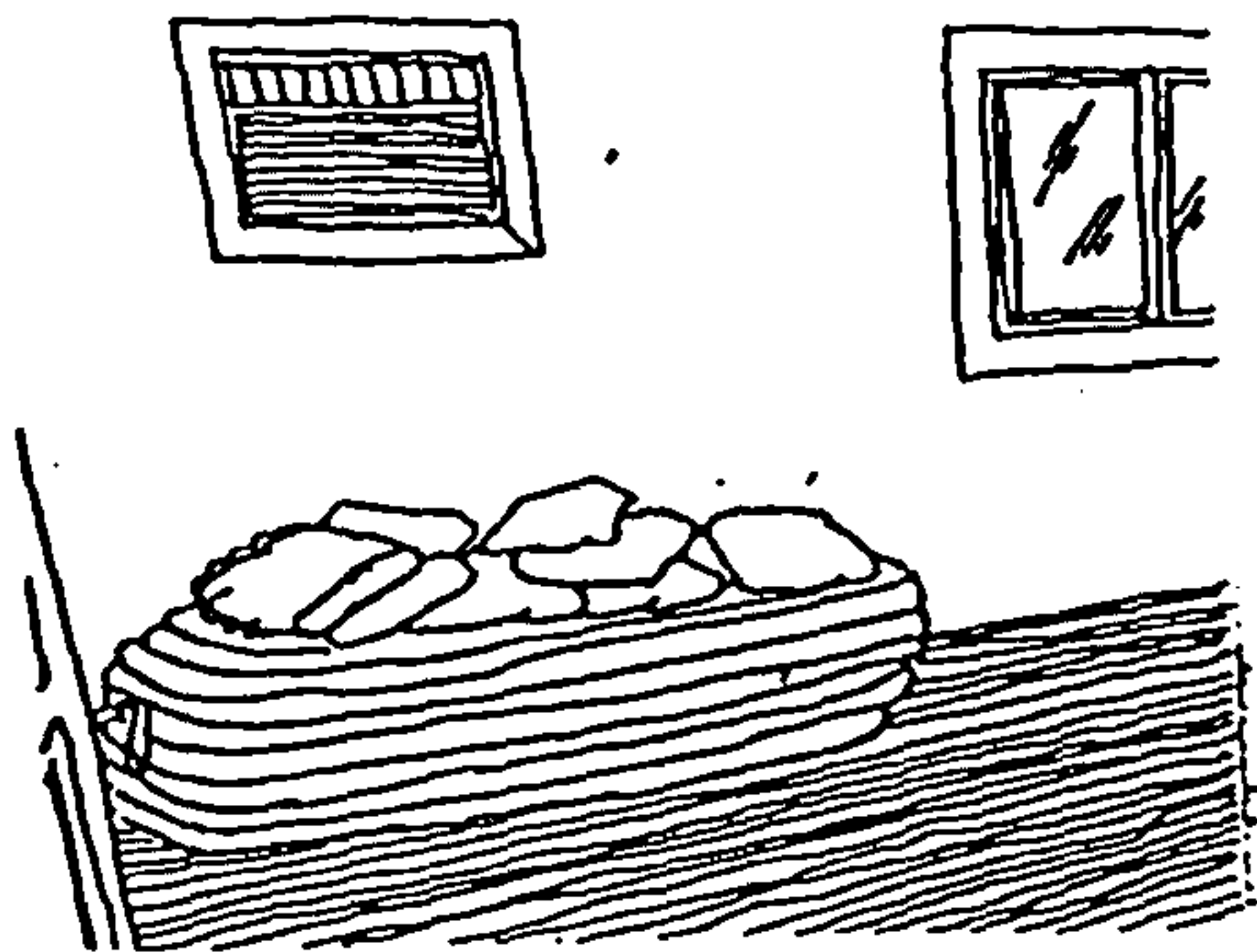
Fig C.23



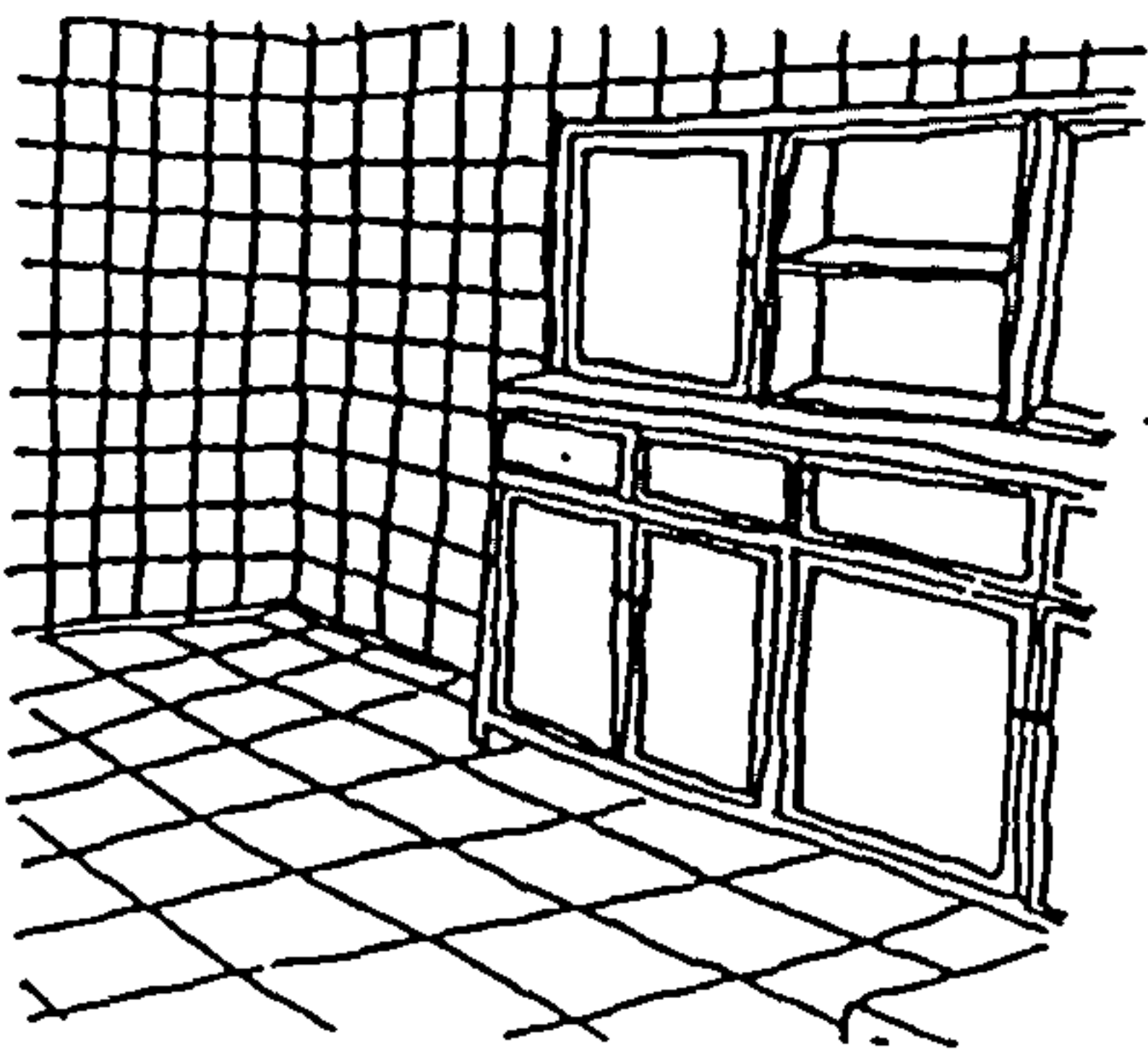
(a) Ground floor plan



(b) Building exterior view



(c) Typical bedroom

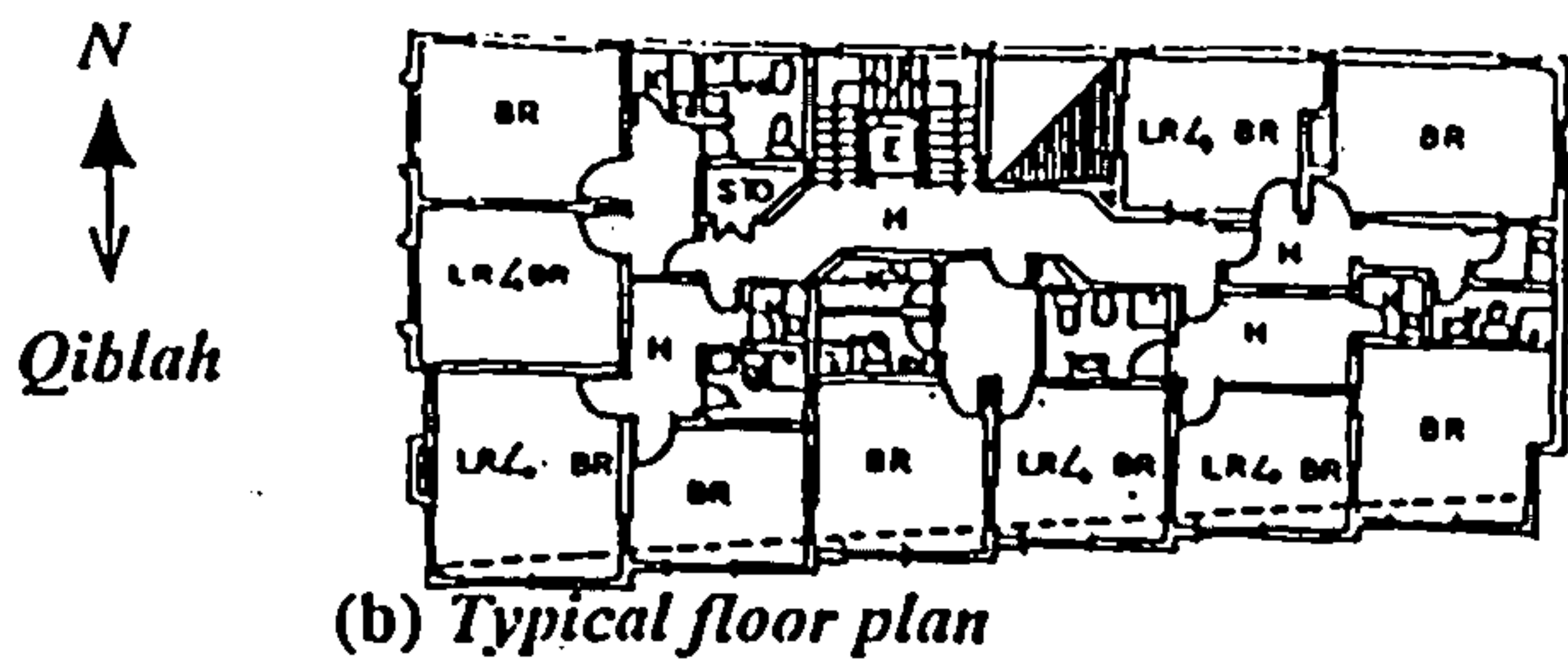


(d) Typical kitchen

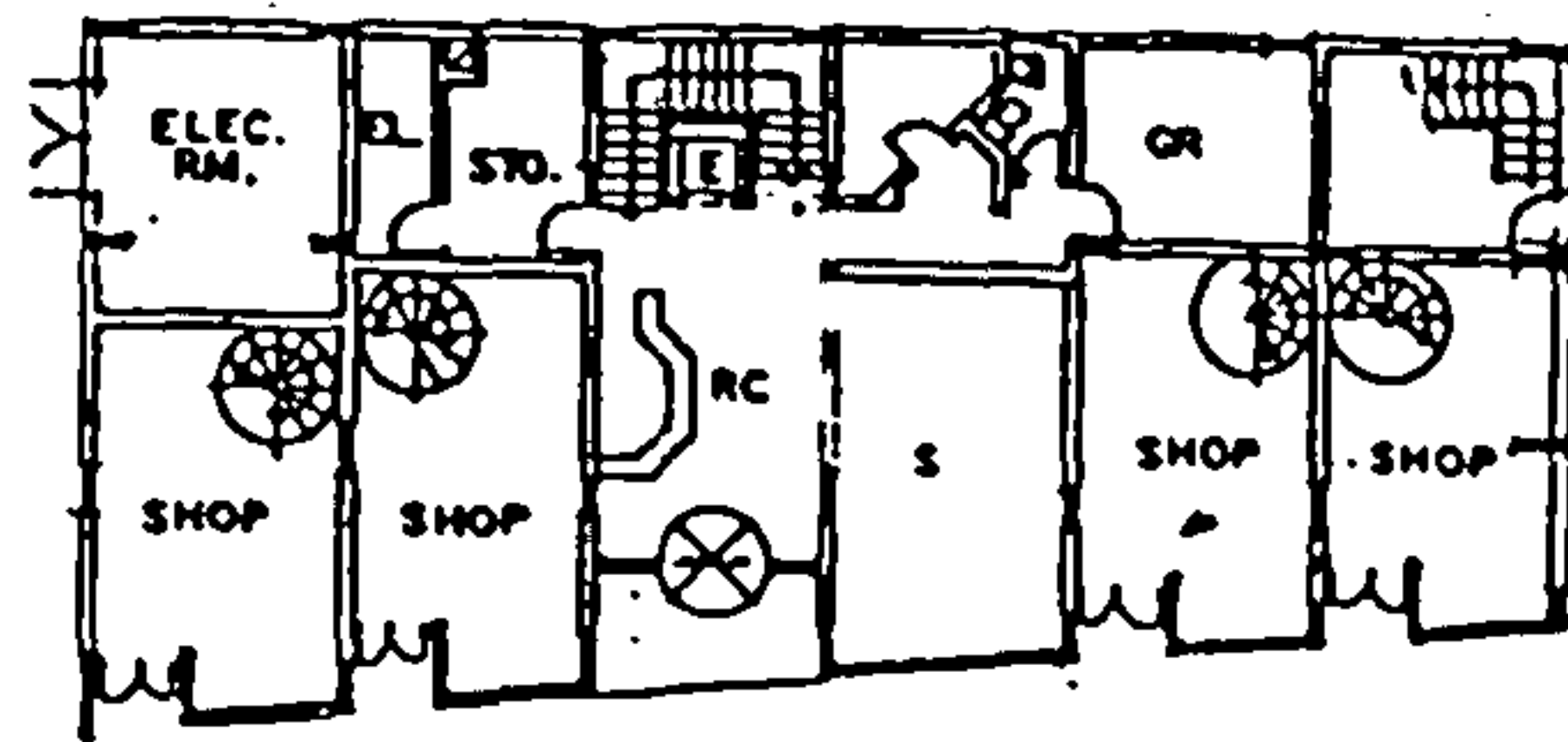
S.24 Building Number 7/4

Building No.7/4 "Al Rihap Palace" is a 5 storey commercial / residential building. The ground floor mainly consists of individual shops with spiral stairs to the mezzanine level. Also, the ground floor contains a reception area, common lounge, guard room, storage, electrical/ mechanical room, stair case and lift to the residential floors (b). Each of the residential floors is divided into 5 suites each of which consist of a living room, bedroom, toilet and kitchenette. By furnishing the living rooms as well as bedrooms with individual sleeping cushions the building houses 260 pilgrims. Toilets are provided with cabinet showers (e). The shape of the building lot is shown by the setting back of the main elevation which is clearly indicated in both the structure and size of the rooms (a, c).

Fig C.24

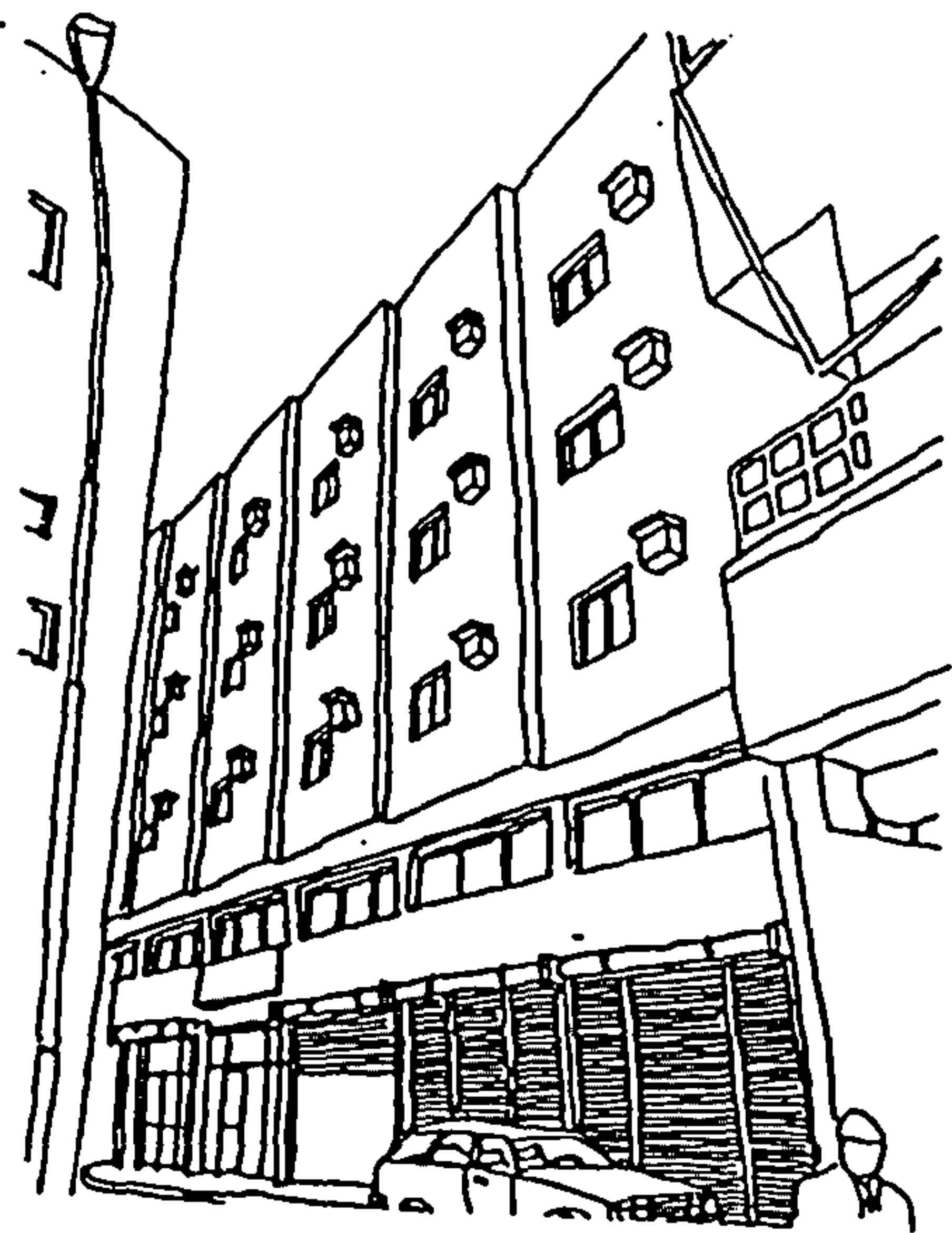


Sleeping Area
651.82 m²
Storeys
5 storeys
Rooms
38 rooms
Capacity
260 pilgrims

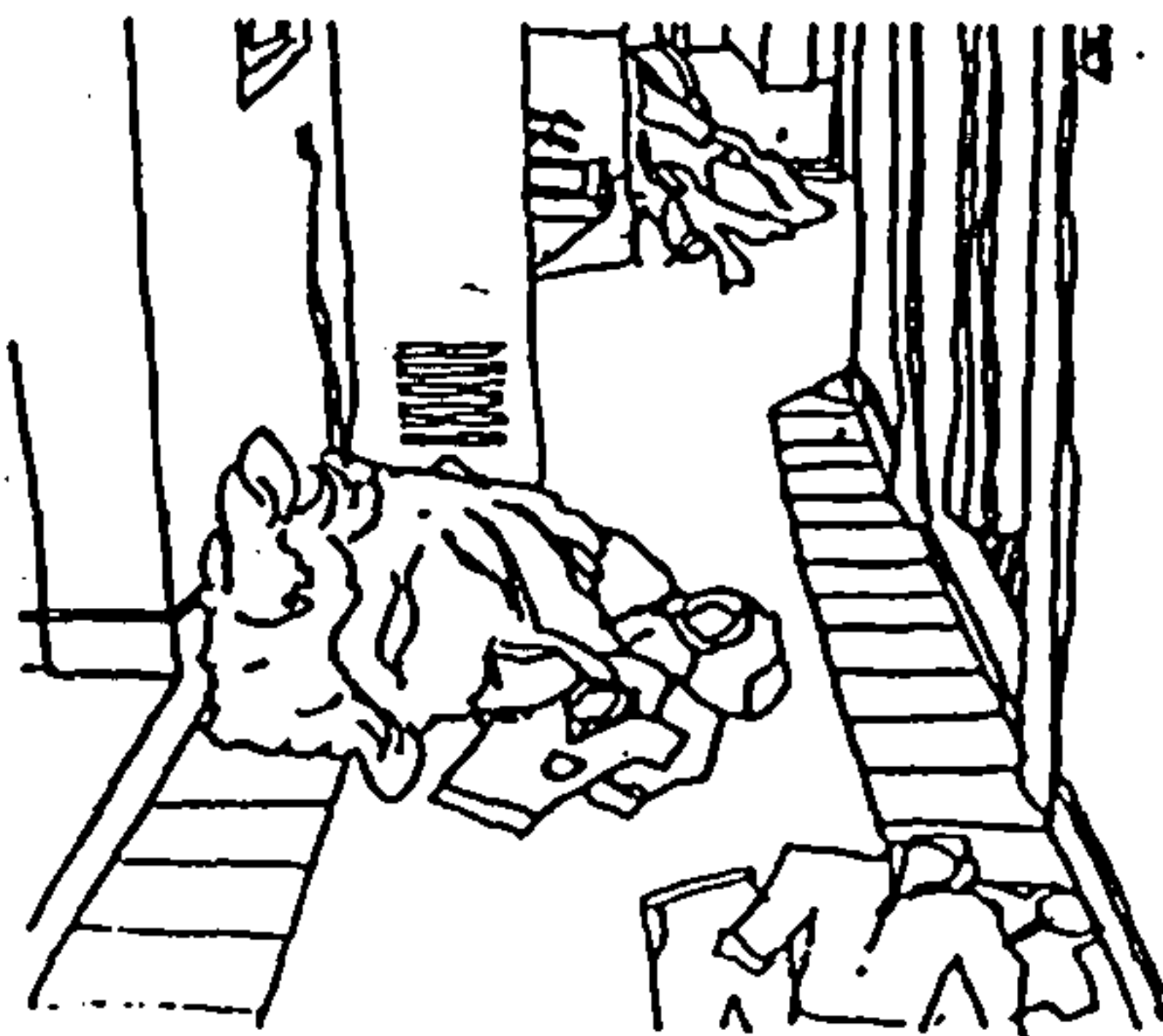


(a) Ground floor plan

5m
Scale



(c) Building exterior view



(d) Main corridor

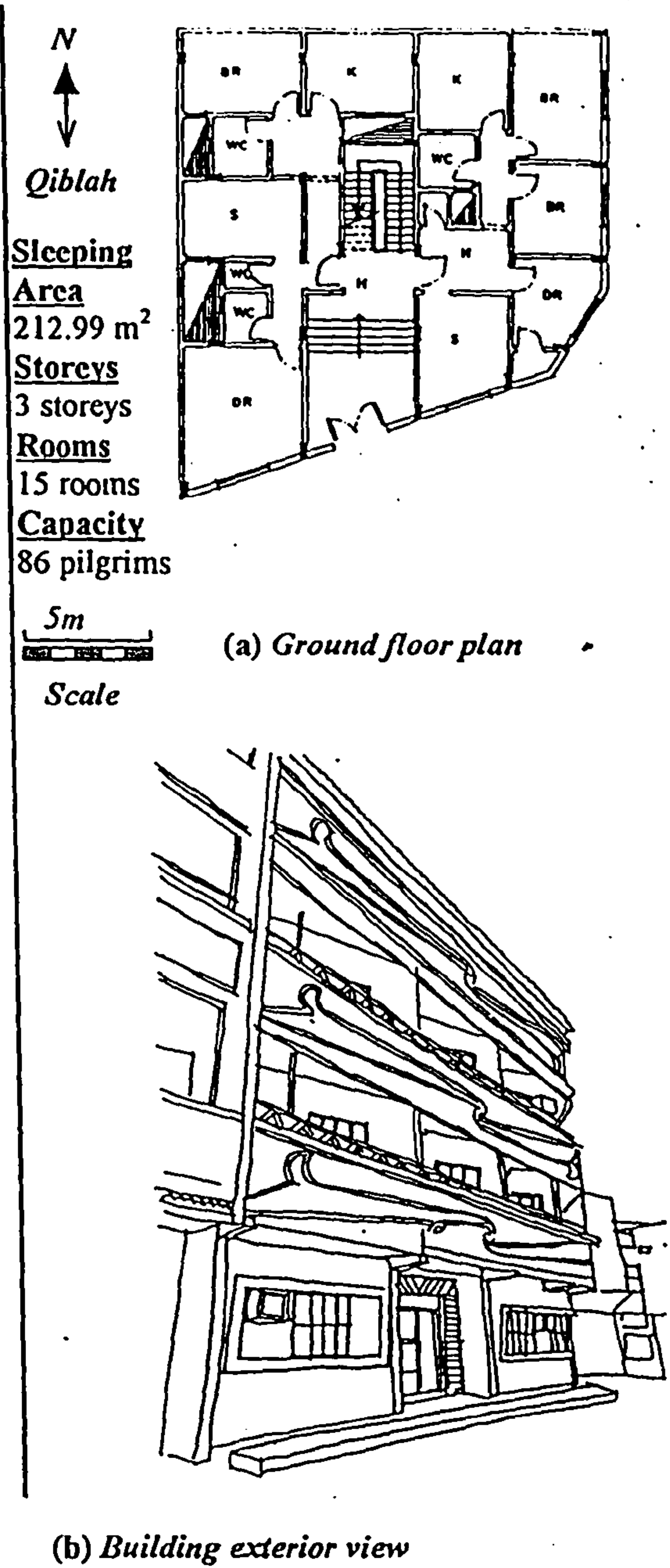


(e) Typical bathroom

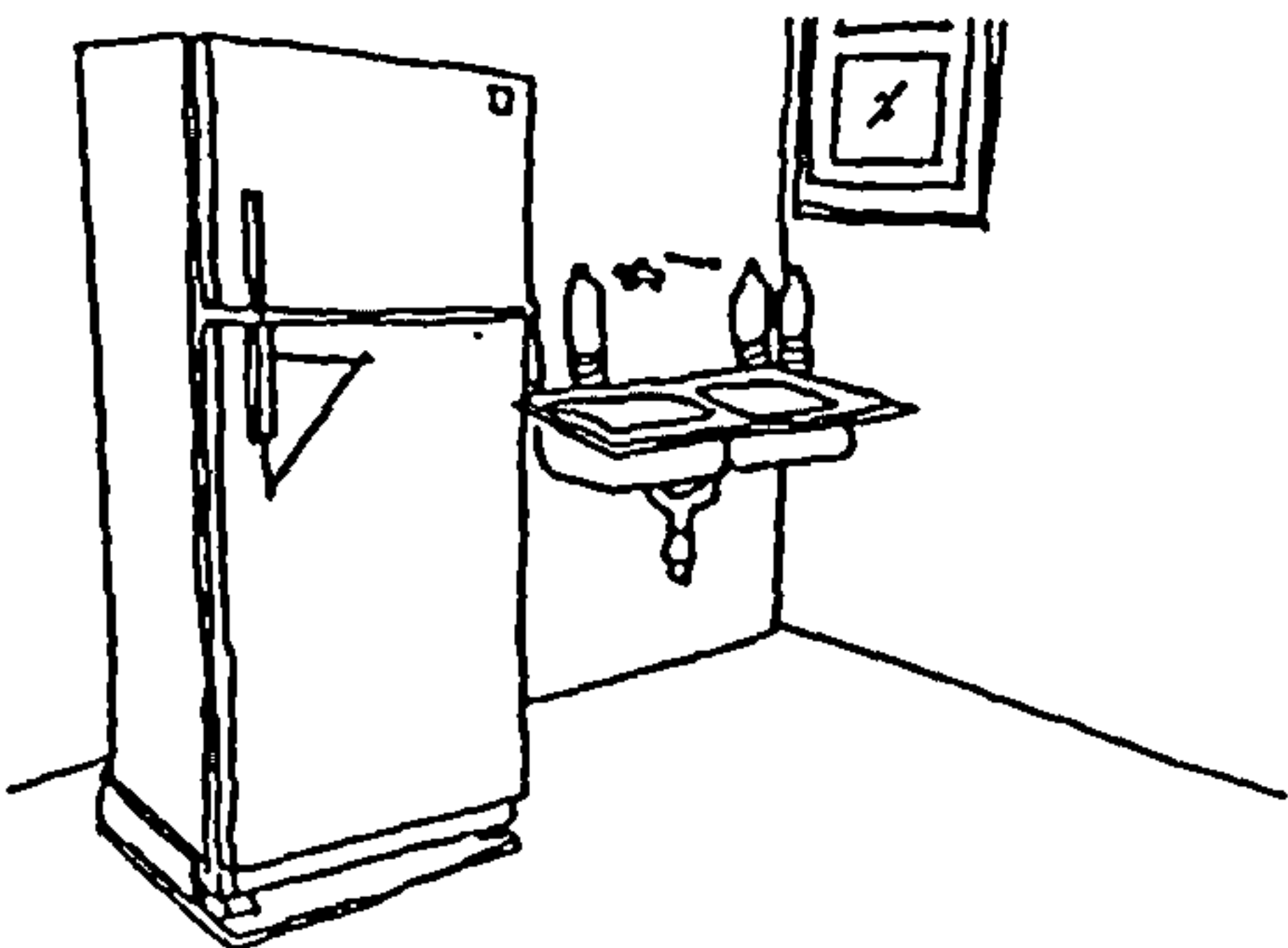
S.25 Building Number 8/4

Building No.8/4 “ Uthman Abduljwad Building”, is a 3 storey residential building. Most floors are divided into 2 apartments consisting of a sitting room, dining room, men’s bathroom, 1 to 2 bedrooms, kitchen and family toilets. All the rooms (including the salons and dining rooms) are furnished with light sleeping cushions to increase the number of bedrooms to 15 and thus the building capacity to 86 pilgrims. The lack of closet and clothes hangers leads to the use of the windows hooks for hanging the pilgrims clothes (d). The kitchens were mostly provided with refrigerators and small hot plates (c). Although the building is comparatively old, the gypsum pattern used to decorate the main elevation gives the building a unique aesthetic characteristic (b).

Fig C.25



(c) Typical bedroom

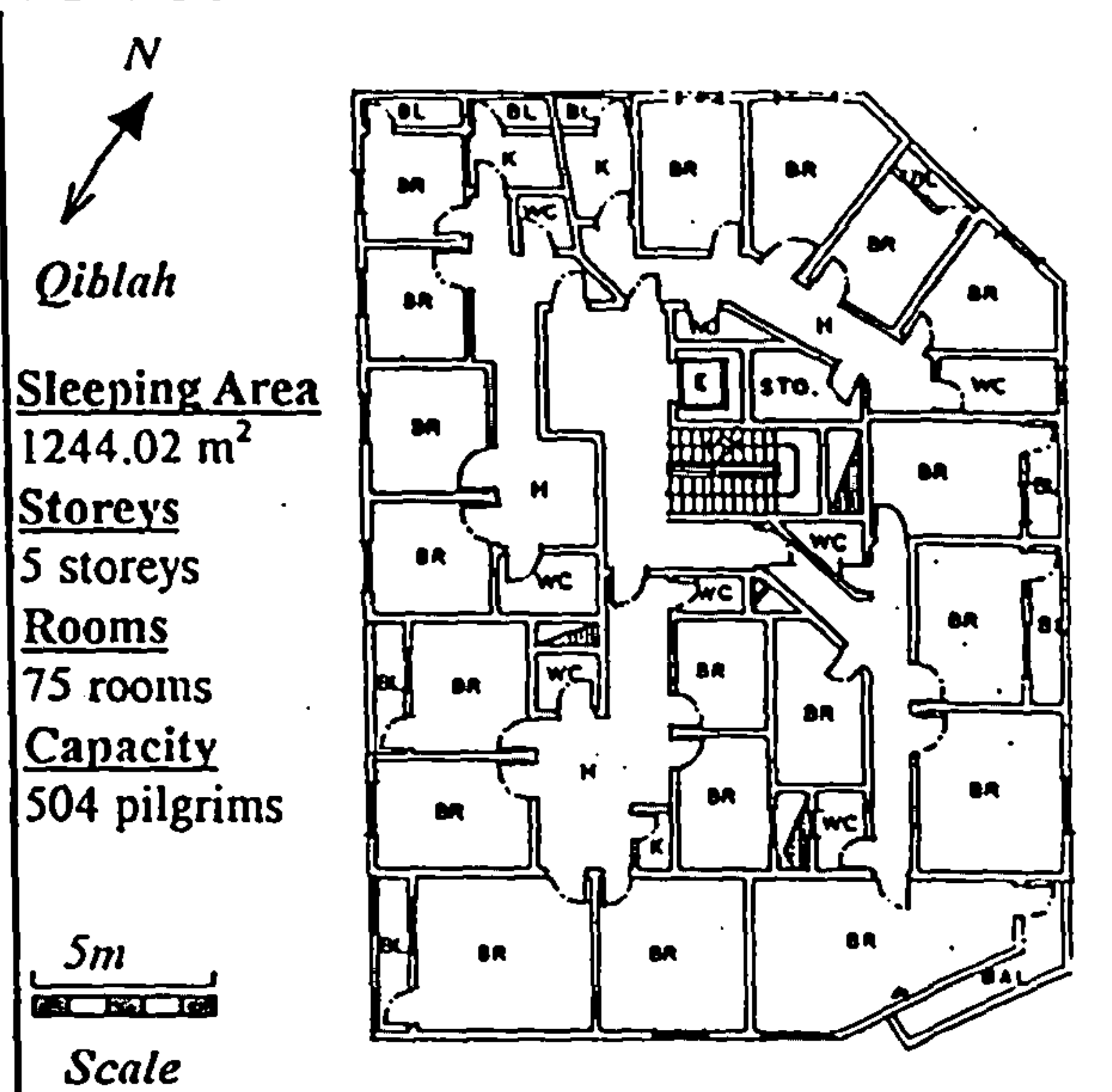


(d) Typical kitchen

S.26 Building Number 9/4

Building No. 9/4 “ Al Safer Residential Palace” is originally designed as a 4 storey commercial / residential building been extended by another floor which is covered by corrugated metal sheeting. As it is located in a commercial street, the ground floor is divided into individual shops. The typical layout of a residential floor consists of four apartments each containing 4 to 6 rooms. All of these rooms are furnished with the sleeping-cushions. Some of these rooms have balconies with an aluminium and glass parapet (b). Most of the apartments contain one kitchen and two toilets. The toilets which open directly to the bedrooms contain exposed service pipes which affect the internal value of the room (d). Moreover, the extension effects the exterior as an irrelevant element of the main building.

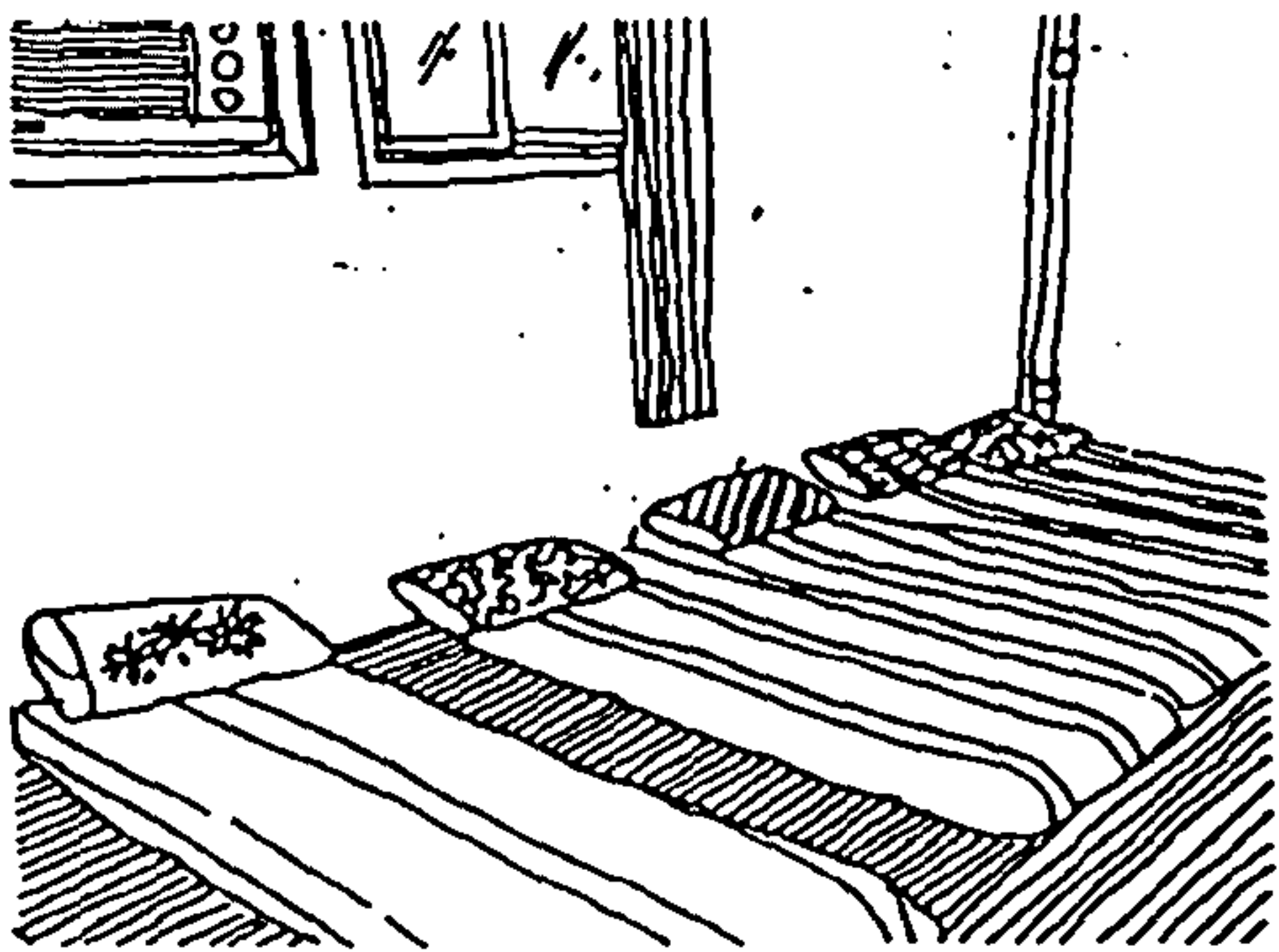
Fig C.26



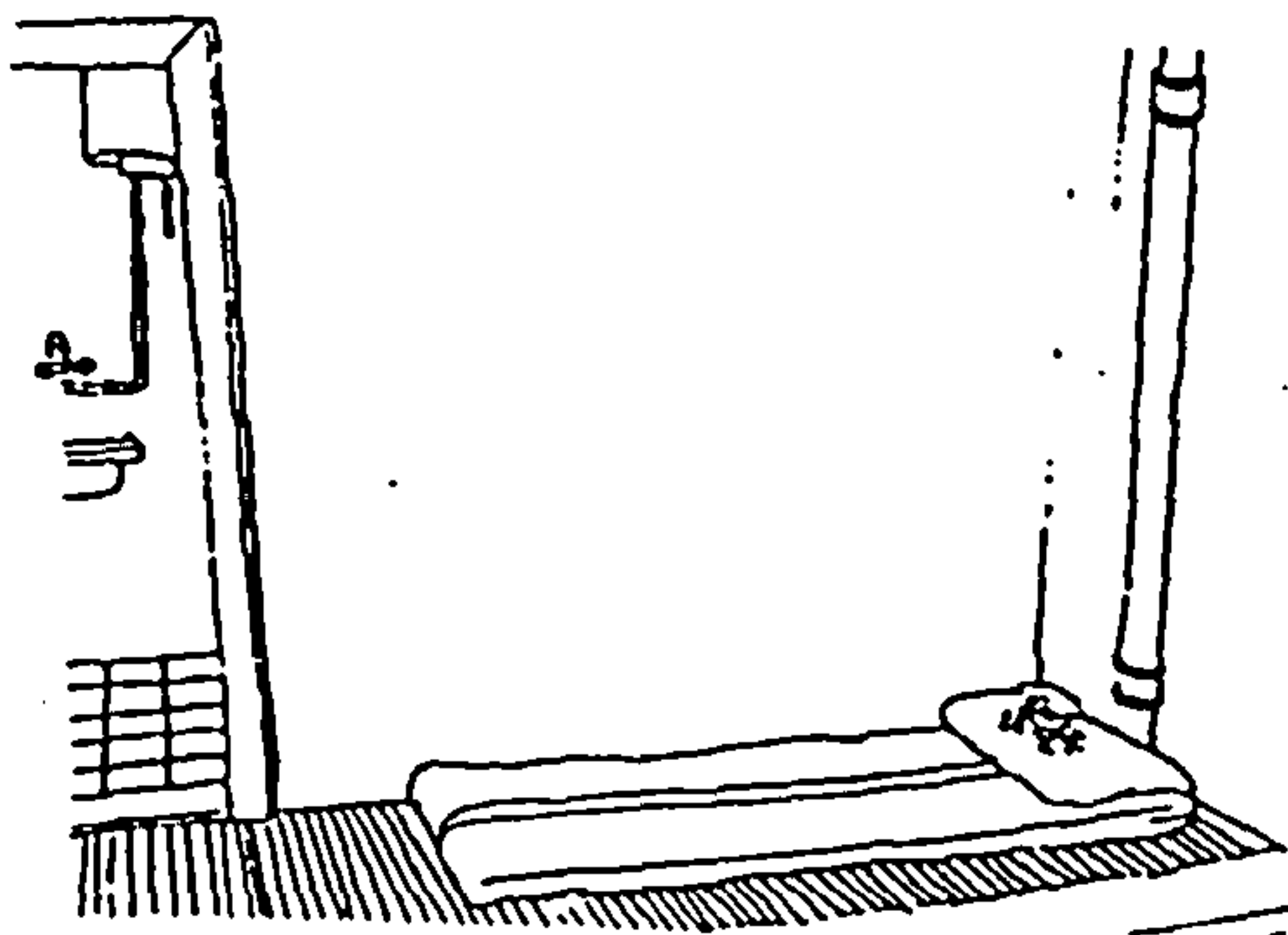
(a) Ground floor plan



(b) Building exterior view



(c) Typical bedroom

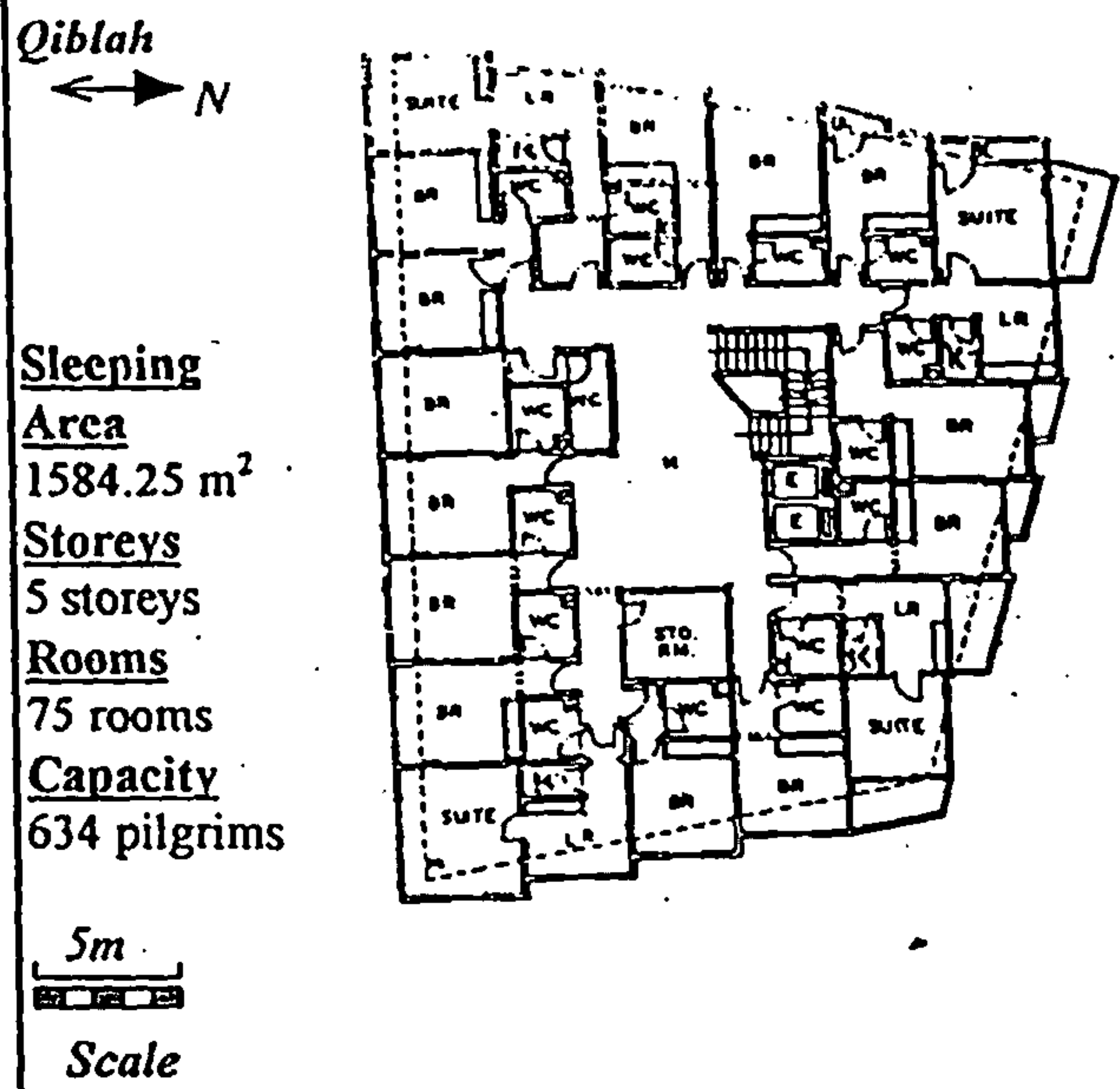


(d) The toilets opened
to the bedroom

S.27 Building Number 10/4

Building No. 10/4 “Dar Al Taqwa” is a 5 storey commercial / residential building which has been extended to 6 storeys. The 4 upper residential floors contain individual rooms along the perimeter of the building which is served by the central circulation system (big hall, stair case and 2 lifts). 4 of the rooms are suites (each containing sleeping area, sitting area, kitchenette and toilets). The other rooms have only one private toilet. The suite kitchenette was only provided with one sink which is used for a ablution. Due to the ground area, the layout contains long corridors (c). The irregular shape of the site is reflected in a gradual setting back of the rooms which characterises three facades of the building. Moreover, the extension does not reflect the building’s style either in form or in the material used.

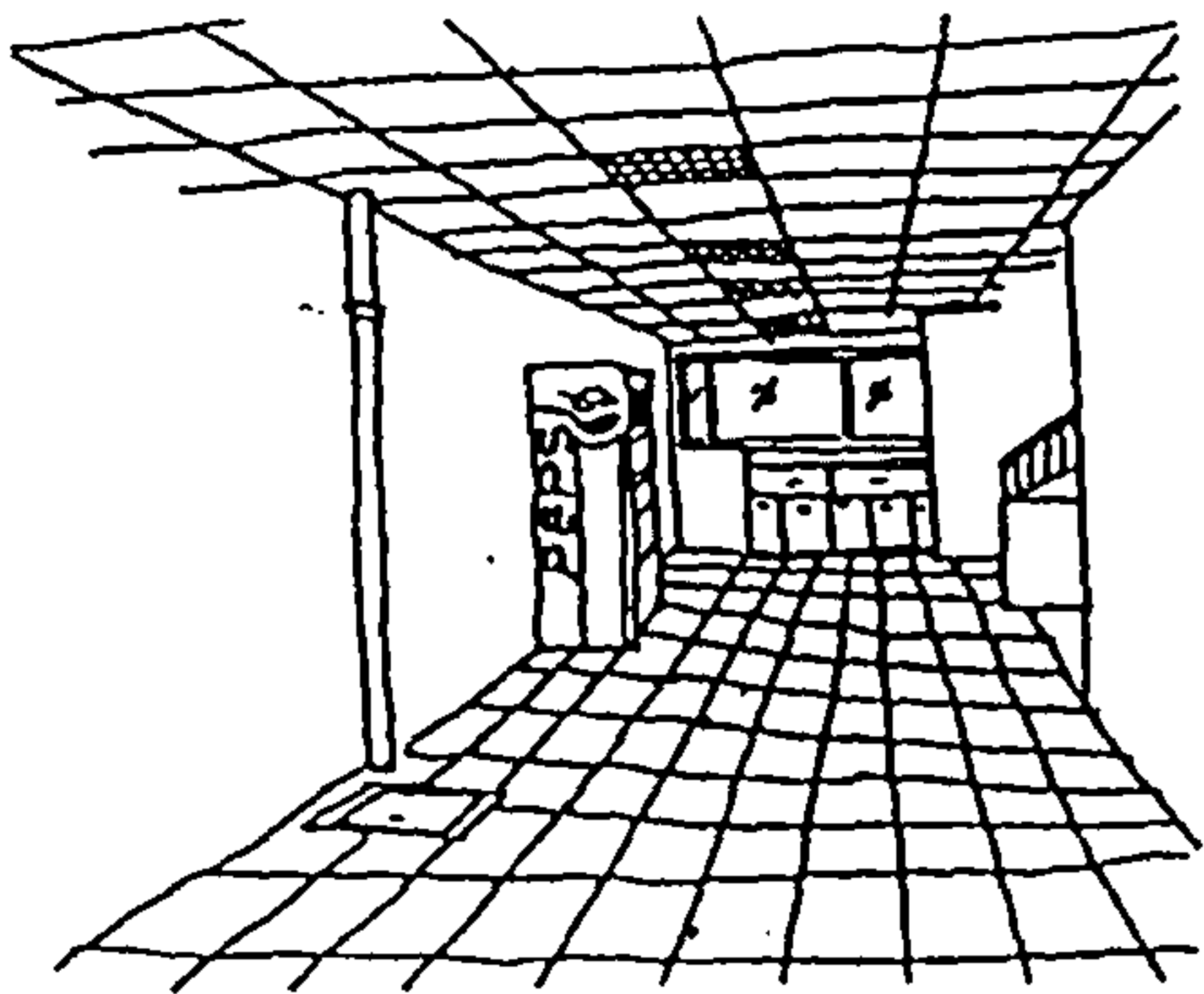
Fig C.27



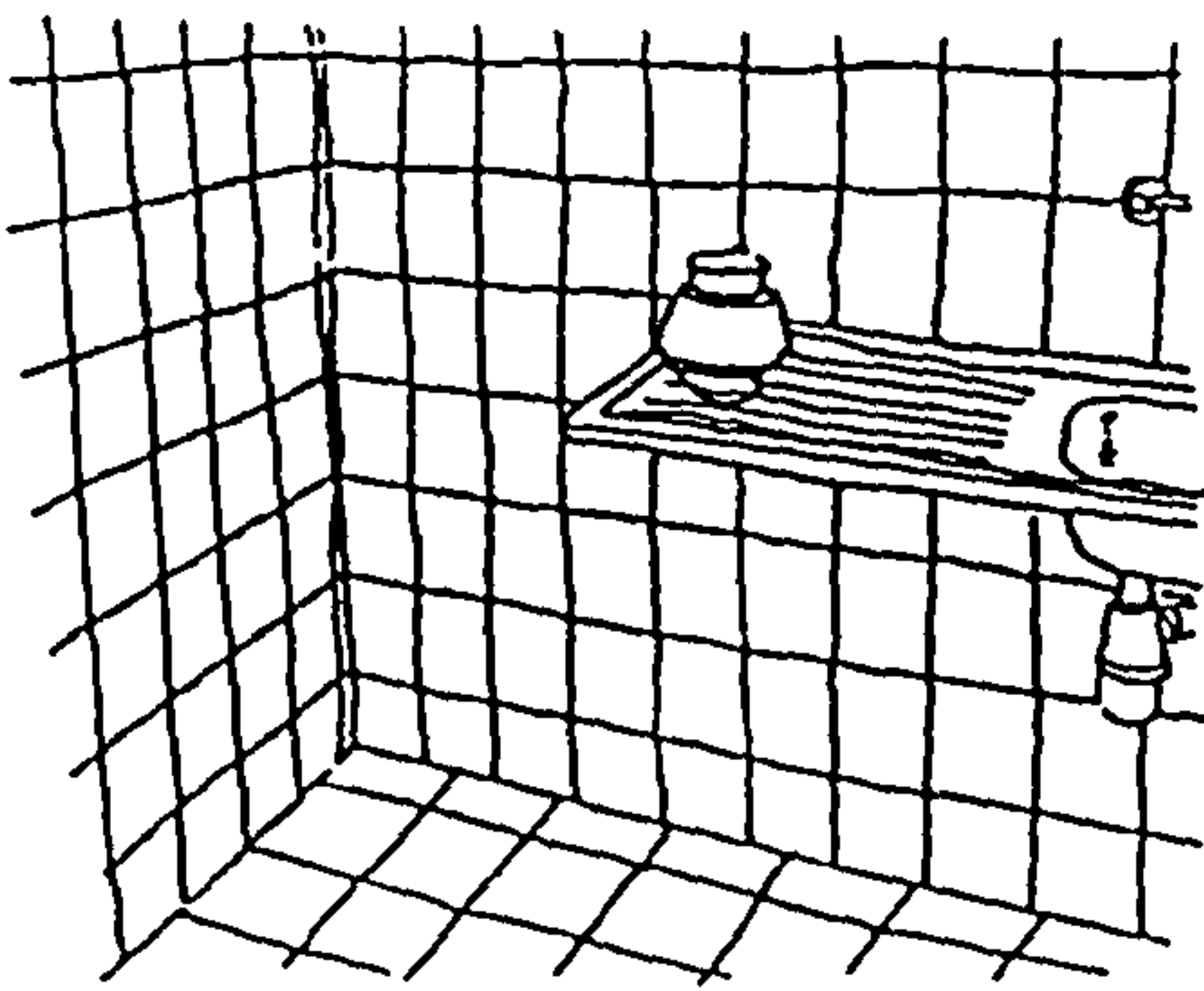
(a) Typical residential floor plan



(b) Building exterior view



(c) The main corridor

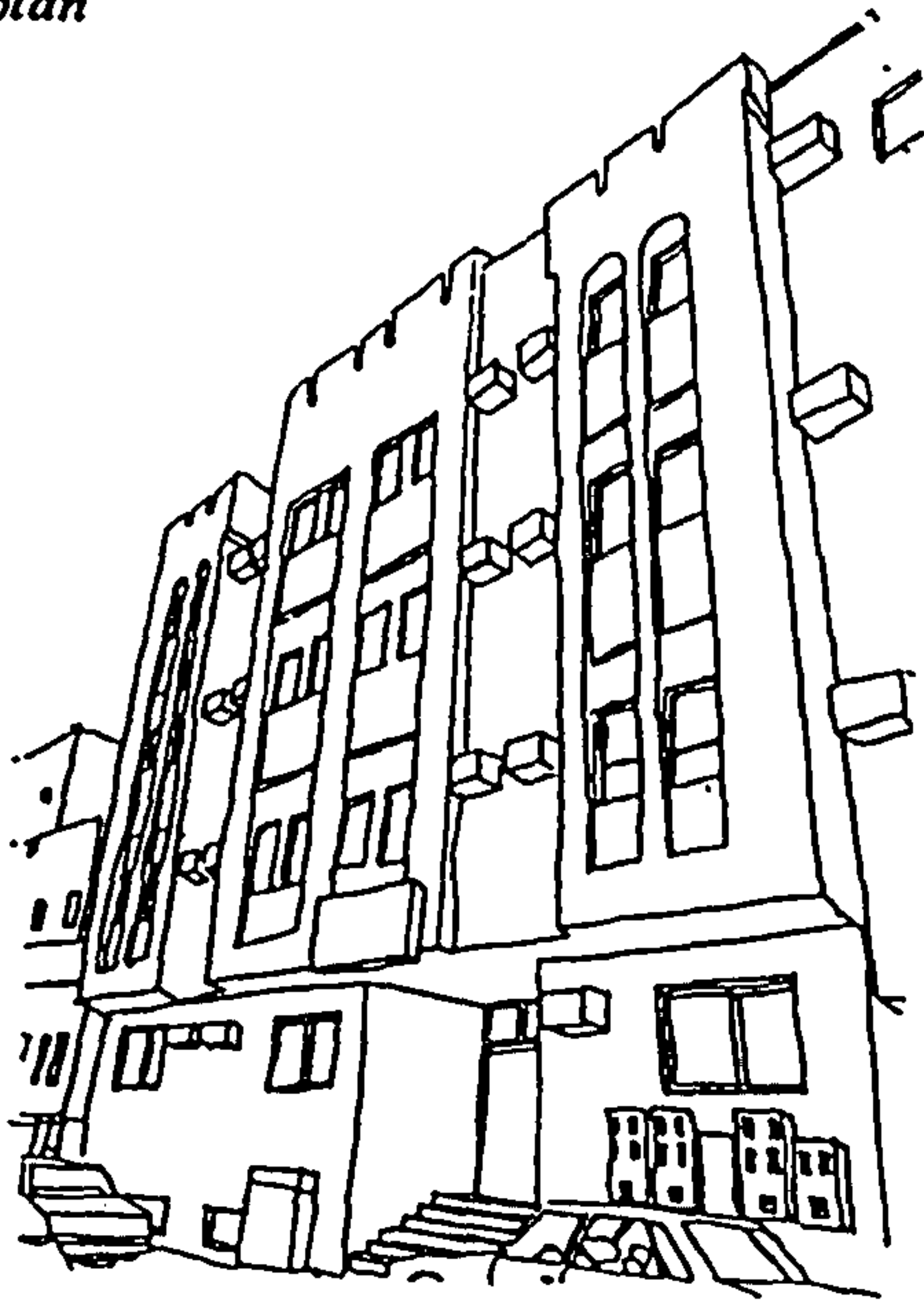
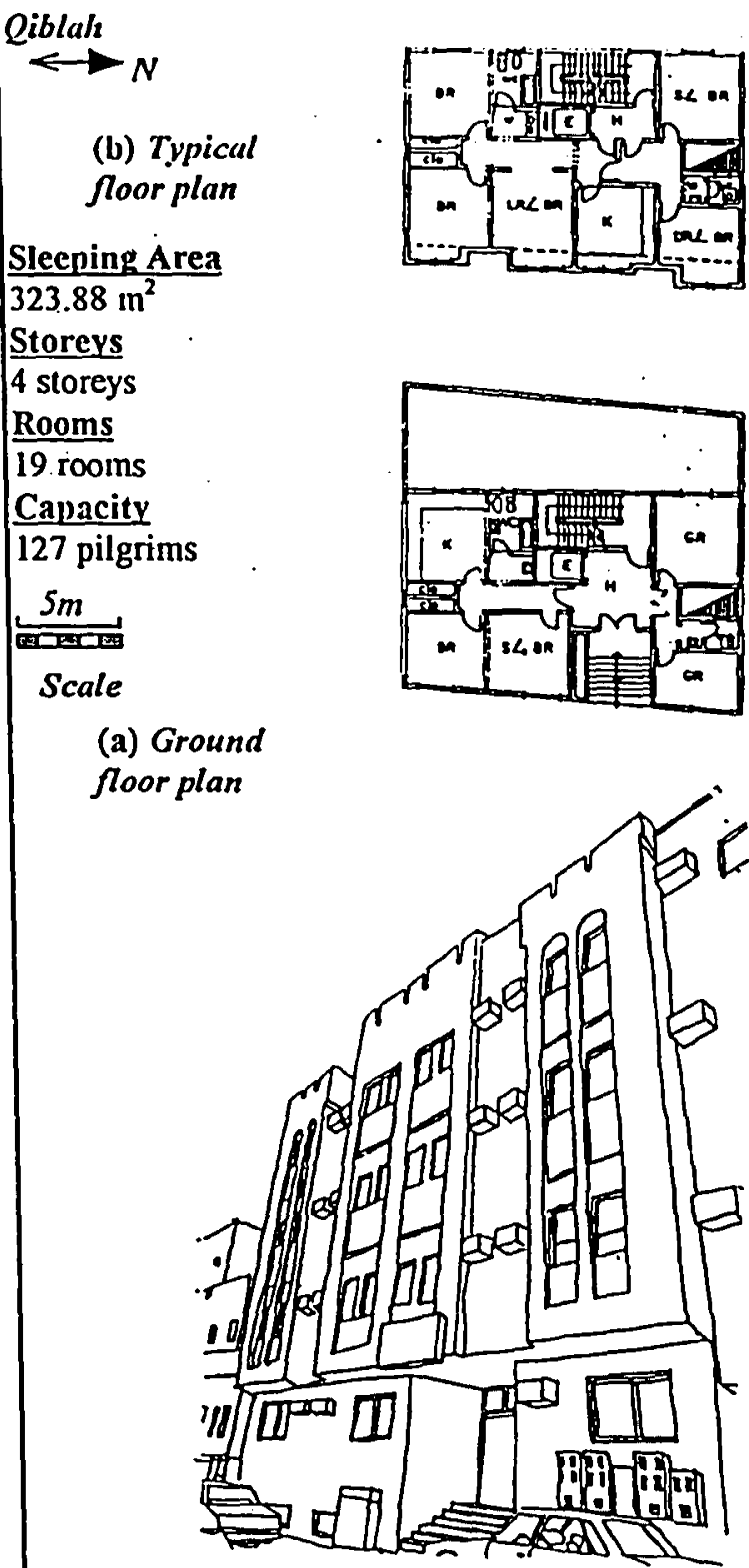


(d) Typical kitchen

S.28 Building Number 11/4

Building No. 11/4 “Joharat Anas” is a residential building. The building entrance divides the ground floor into two areas: 1) contains two bedrooms, kitchen and toilet, and 2) is an apartment consisting of sitting room, bedroom, large kitchen, and toilet. These two parts are typical joined in the upper floors into one apartment where the area above the guard house is used as guest quarter and the second part is kept as family quarters. Regardless of the original layout, all the rooms which at one time contained a fitted cupboard are used as bedrooms. The lack of curtains leads the pilgrims to cover the windows with blankets for privacy and shading purposes (d). Also, they, use their room as a drying area due to the shortage of washing and drying machines. The top parapet gives the building a castellated style (c).

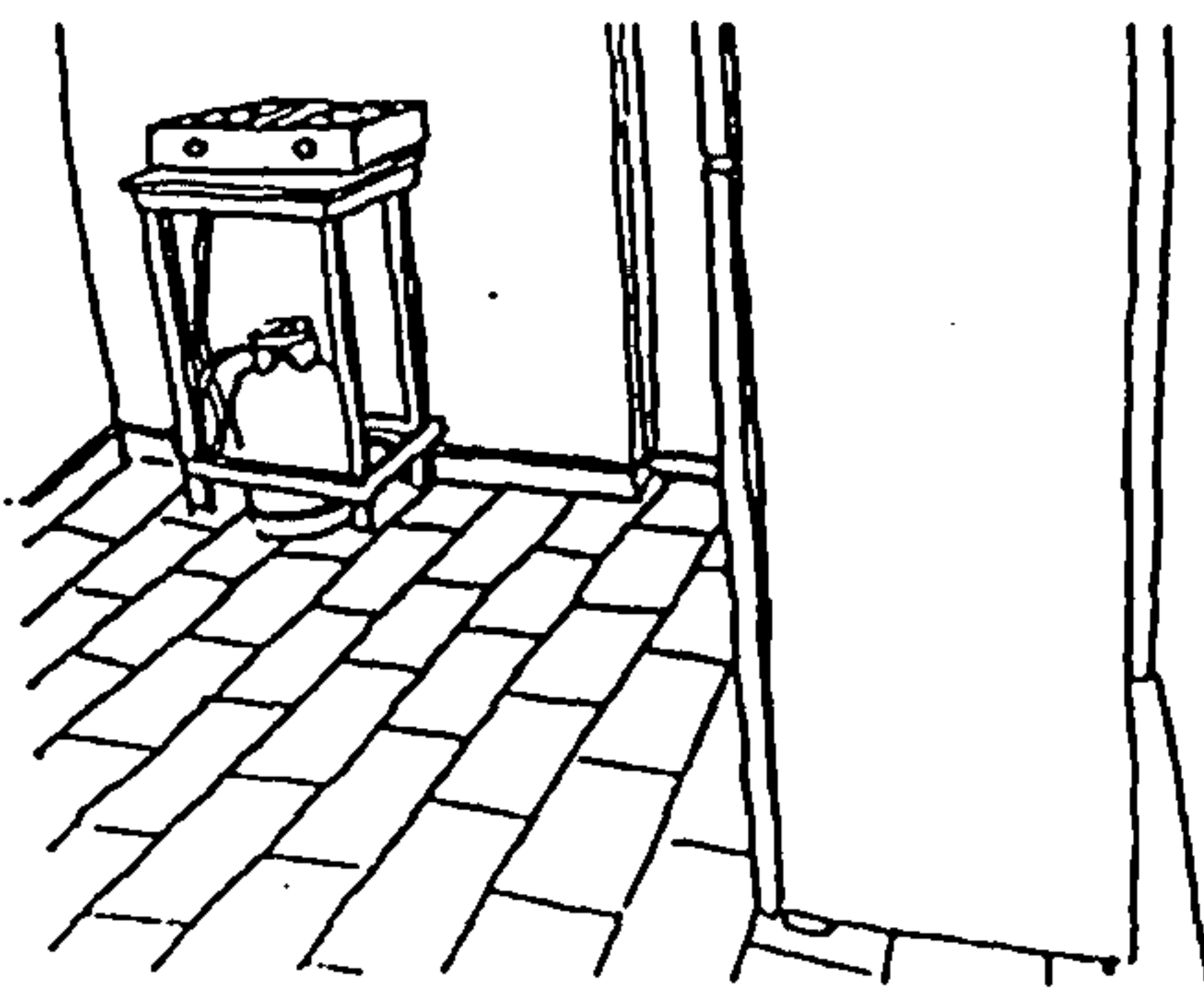
Fig C.28



(c) Building exterior view



(d) Typical bedroom

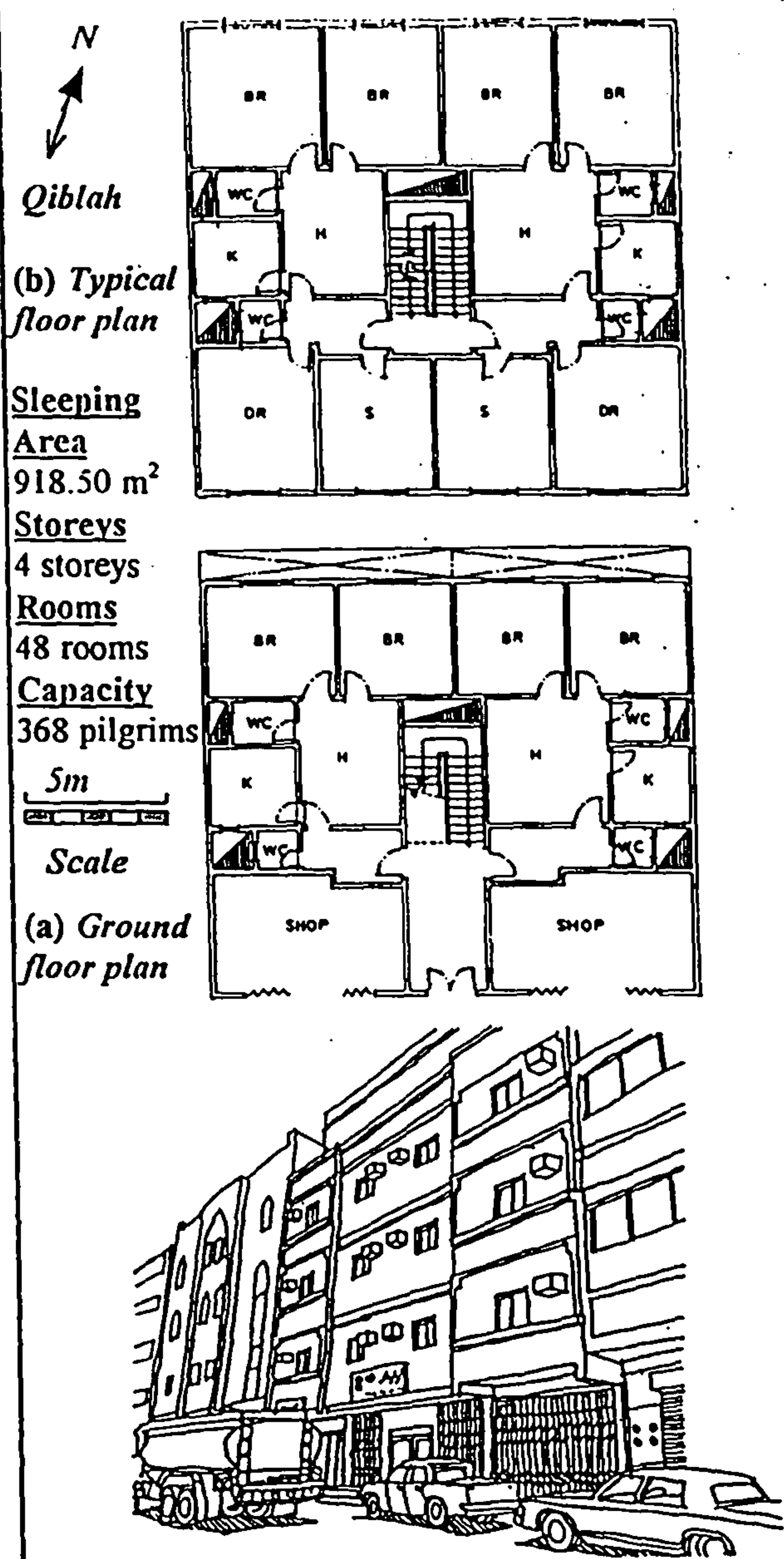


(e) Typical kitchen

S.29 Building Number 12/4

Building No. 12/4 “Loloat Mohaned” is a commercial / residential building. The front side of the ground floor is occupied by shops and the back is divided into two symmetrical apartments. Each of these apartments contains 2 bedrooms, 2 toilets, a kitchen and a big hall (a). The service part (toilets and the kitchen) is located immediately after the entrance which gives the impression that the shops were originally guest space “sitting rooms”. This hypothesis is supported when looking to the upper three floors which are similar in design to the ground floor except that the area above the shops is occupied by the sitting room and the dining room (b). Pilgrims use their room and the main hall as storage spaces. The main elevation emphasises layers of flooring slabs by both painting and projection. (c).

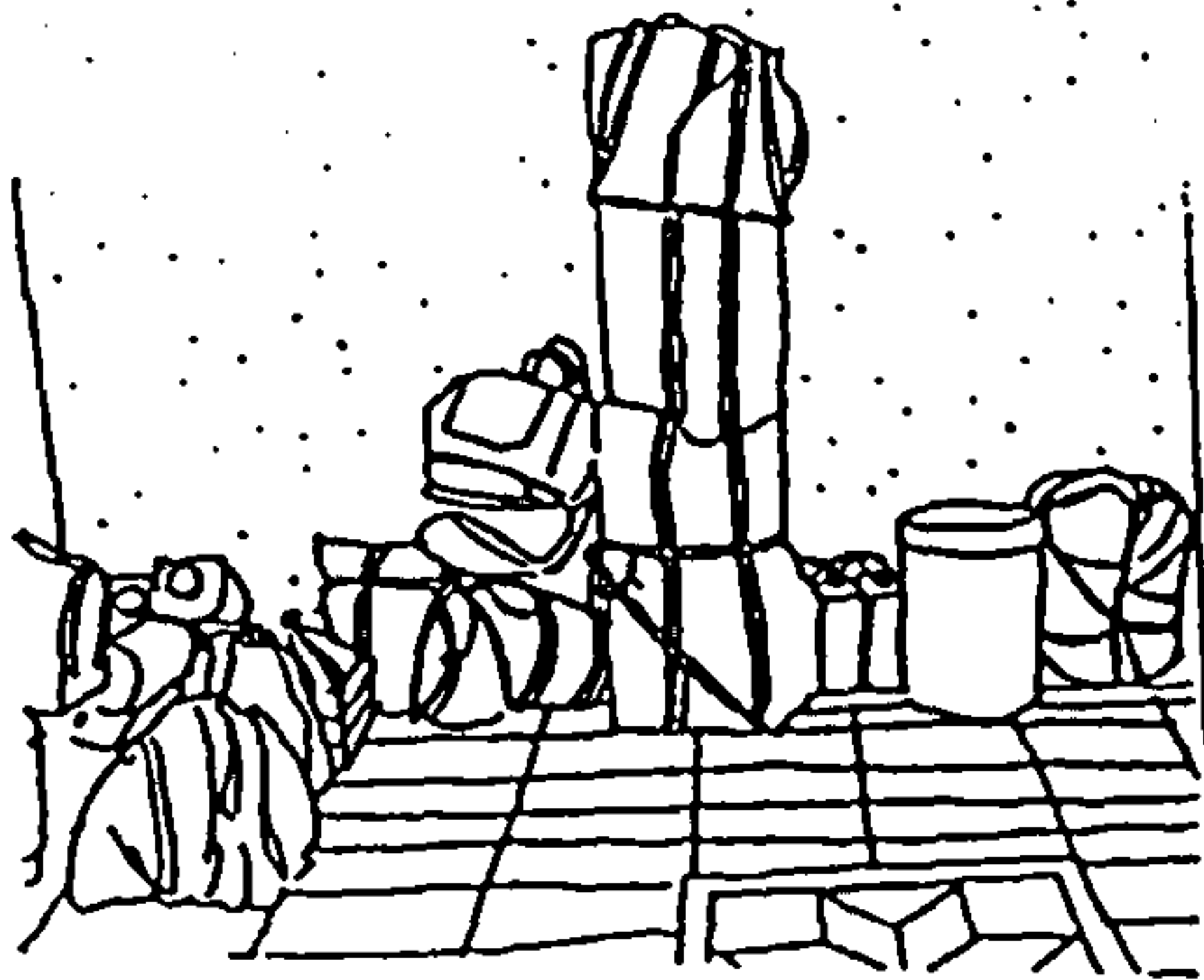
Fig C.29



(c) Building exterior view



(d) Typical bedroom

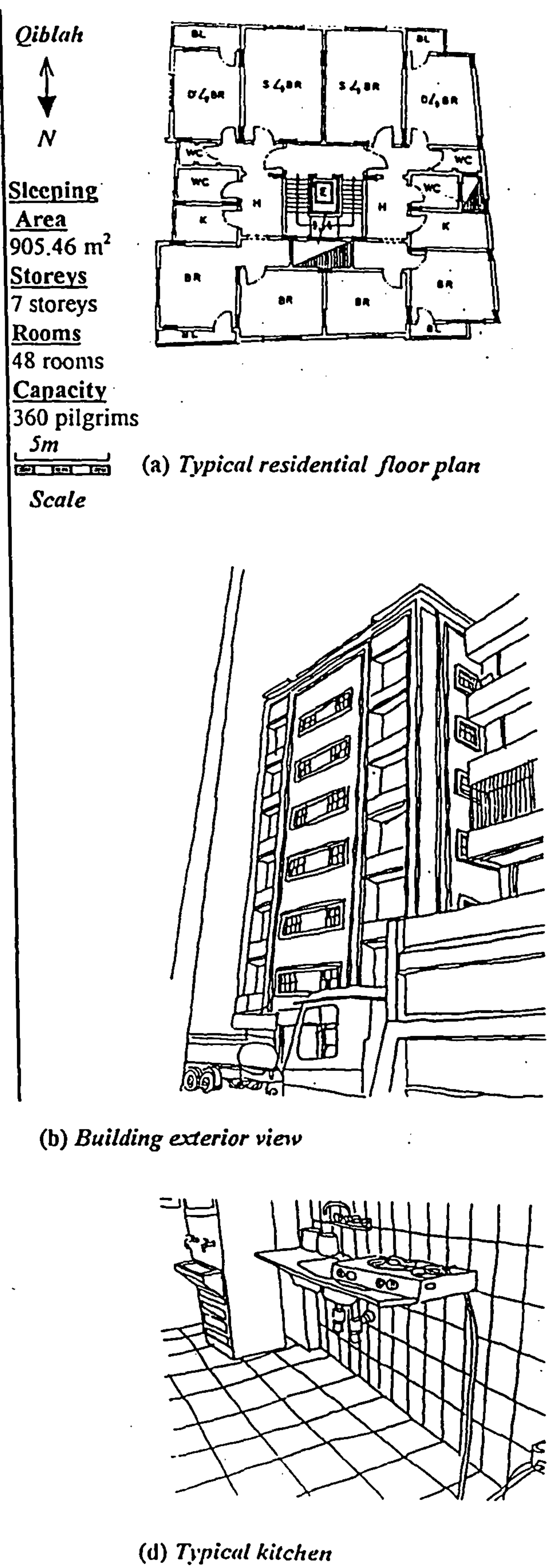


(c) The hall - has been used as storage space

S.30 Building Number 13/4

Building No. 13/4 “ Al Safer Residential Centre” is a commercial / residential building. The ground floor is used for commercial activities while the other 6 storeys are for residential use. The building parapet was raised and roofed with corrugated metal sheets to increase the capacity. The residential floors are typically divided into two nearly symmetrical apartments. Each of these apartments is divided into two quarters:1) the guest quarters including the sitting room, dining room and men’s toilet; and 2) the family quarters which include two bedrooms, kitchen and toilet. The toilets and kitchens are located near each other and between the 2 quarters both to reduce the cost of service connection and to act as a privacy barrier (c). The building elevation emphasises structural elements such as columns, beams and brick joints (b).

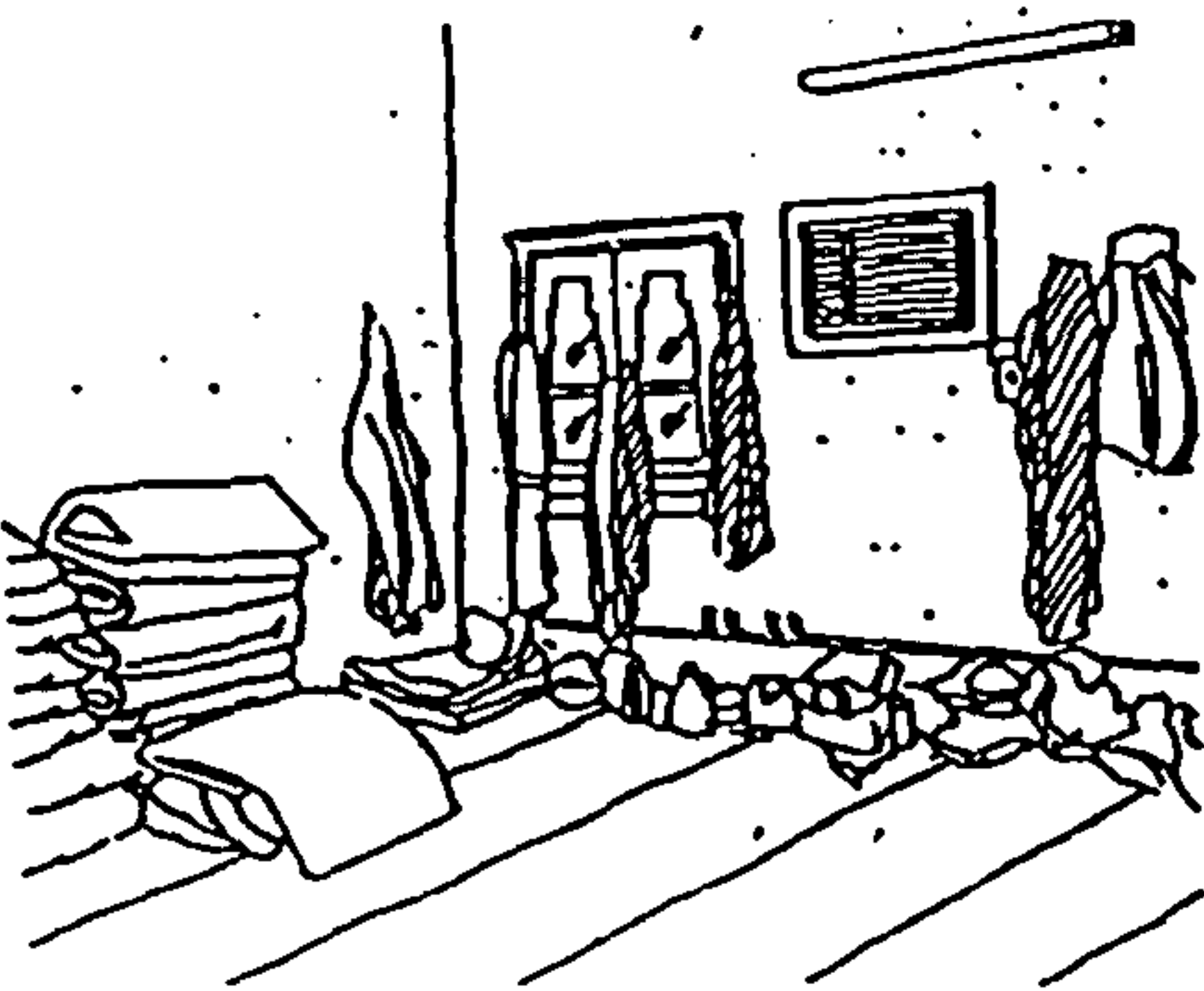
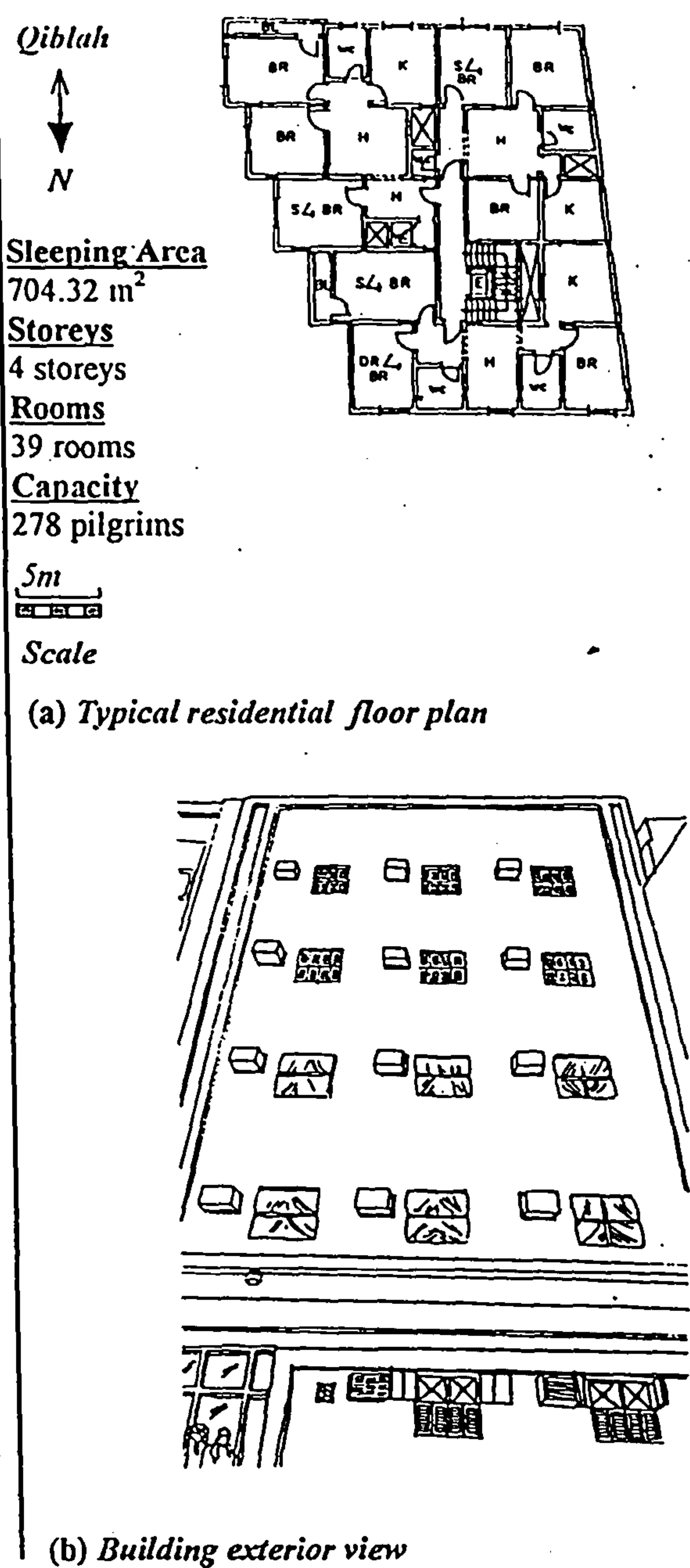
Fig C.30



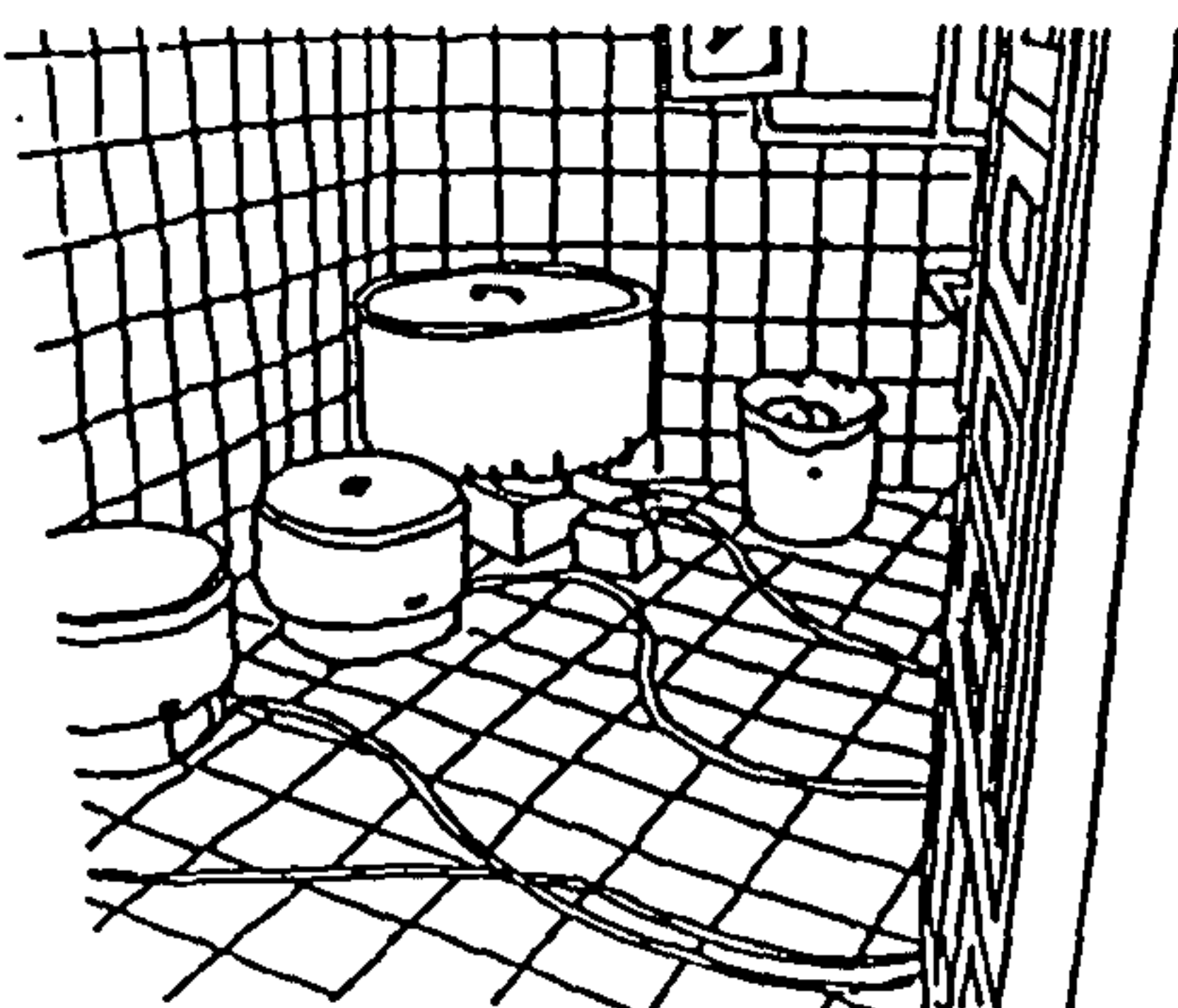
S.31 Building Number 1/5

Building No. 1/5 “Ail Nasser Al Nakhali” is a 5 storey residential building contains 39 rooms with a total capacity of 278 pilgrims. Each floor is typically divided into three apartments. The apartments are different in terms of the layout but contain similar components (mainly, sitting room, hall, 2 bedrooms, kitchen and two toilets). All the rooms are furnished with carpets and sleeping cushions which are easy to fold (c). Since the kitchen is used by different it has a number of stoves with temporary bottled gas connections, which might create fire problems (d). The building elevation is characterised by the wooden lattice windows for privacy and shading. Some of the pilgrims even cover their windows with plastic sheeting for greater protection.

Fig C.31



(c) Typical bedroom

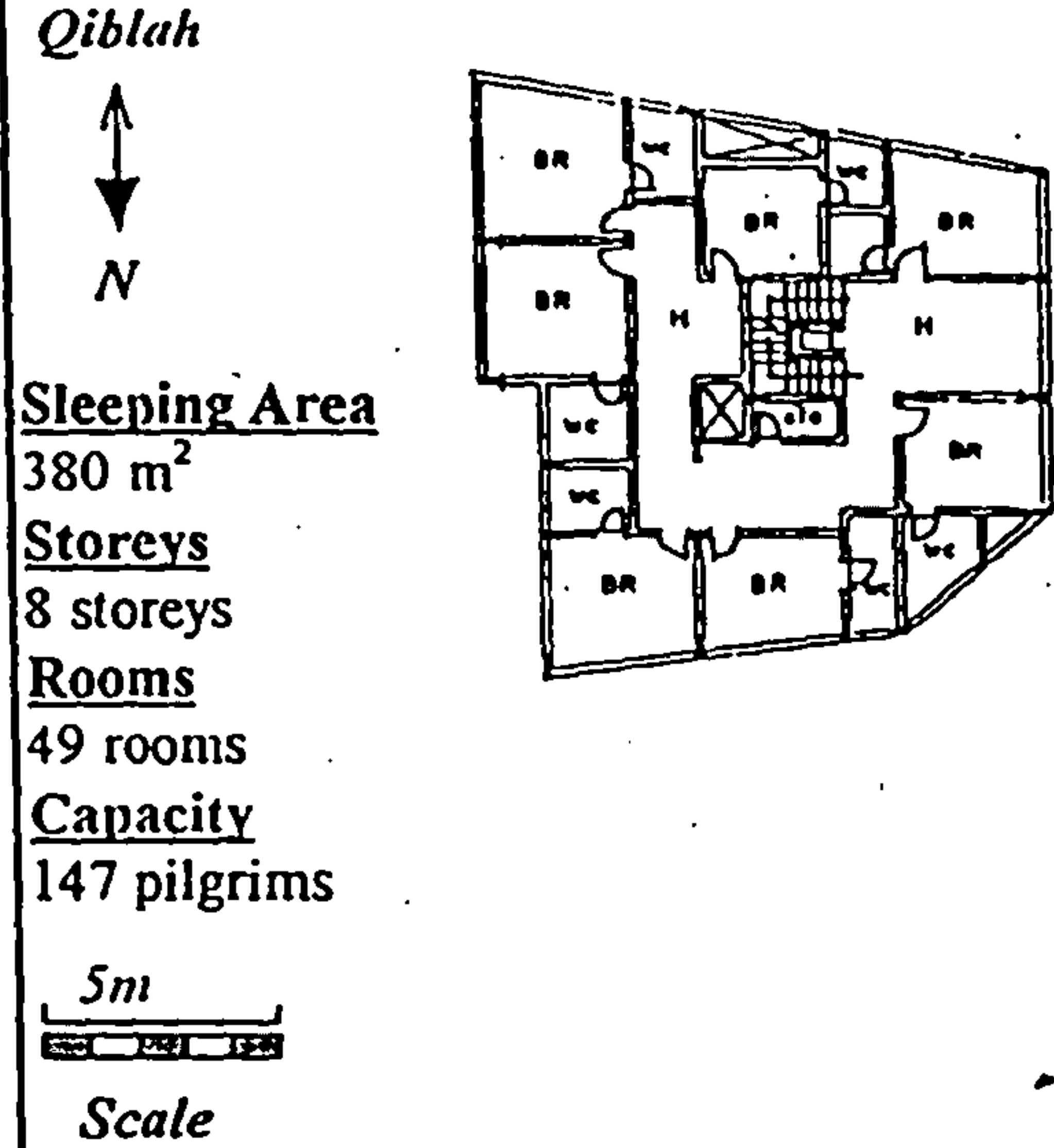


(d) Typical kitchen

S.32 Building Number 2/5

Building No.2/5 “ Al Manzel Al Abeth” is an 8 storey commercial /residential with 49 rooms for 147 pilgrims. The first floor is mainly occupied by commercial activities on the main street. The main entrance including reception and sitting area opens to a side street. The residential floors are designed in the form of a circulation corridor serving individual bedrooms with private toilet (the Hotel style type). These bedrooms, are mostly furnished with wooden beds (2 - 4 single beds), carpet, curtains and multi purpose kitchen cabinet (including sink, small hot plate, refrigerator and small storage area) (e). Glass is excessively used in the elevation for the opportunity of a view of Al Haram as one of the advantages of the site (b).

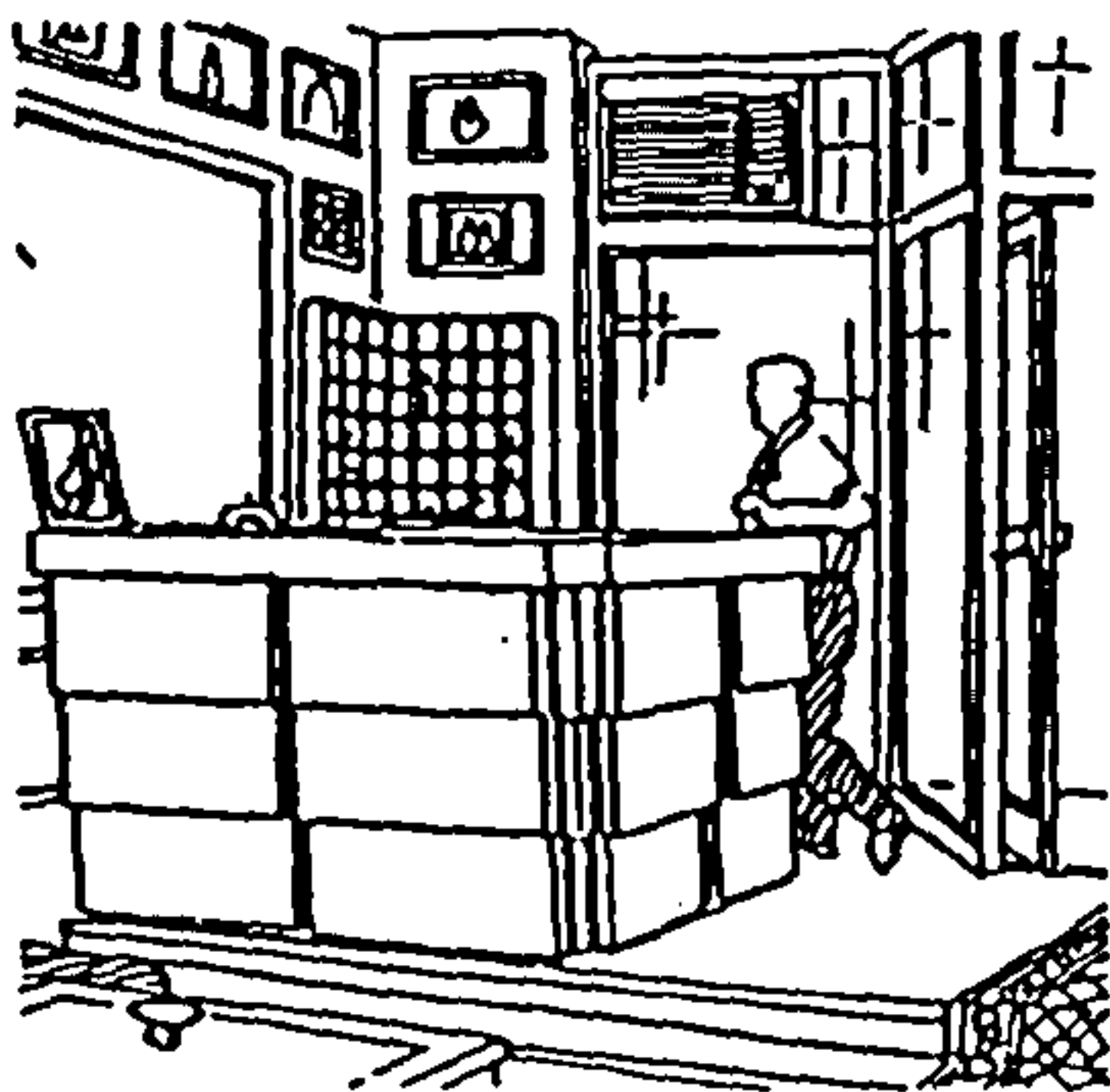
Fig C.32



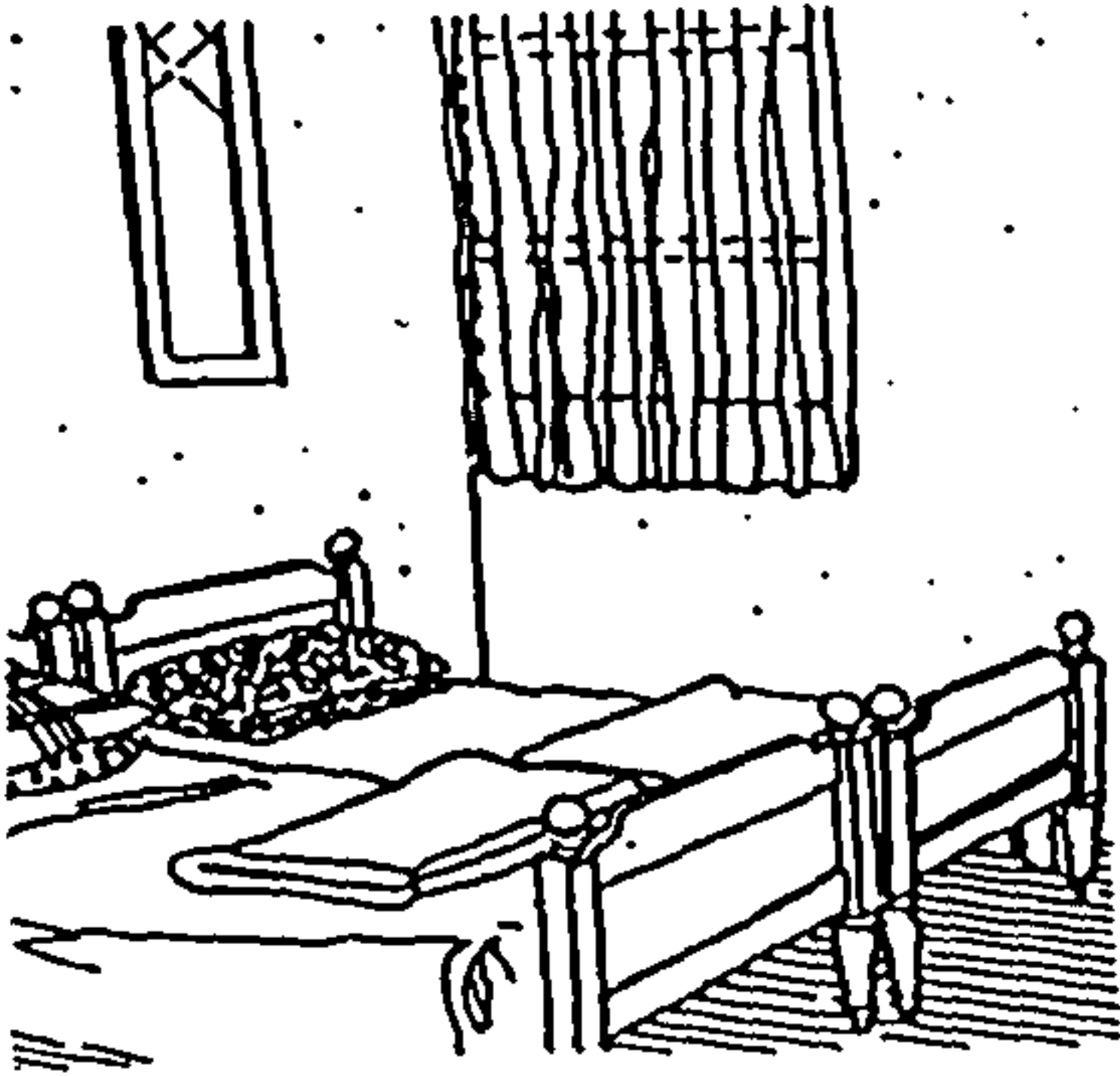
(a) Typical residential floor plan



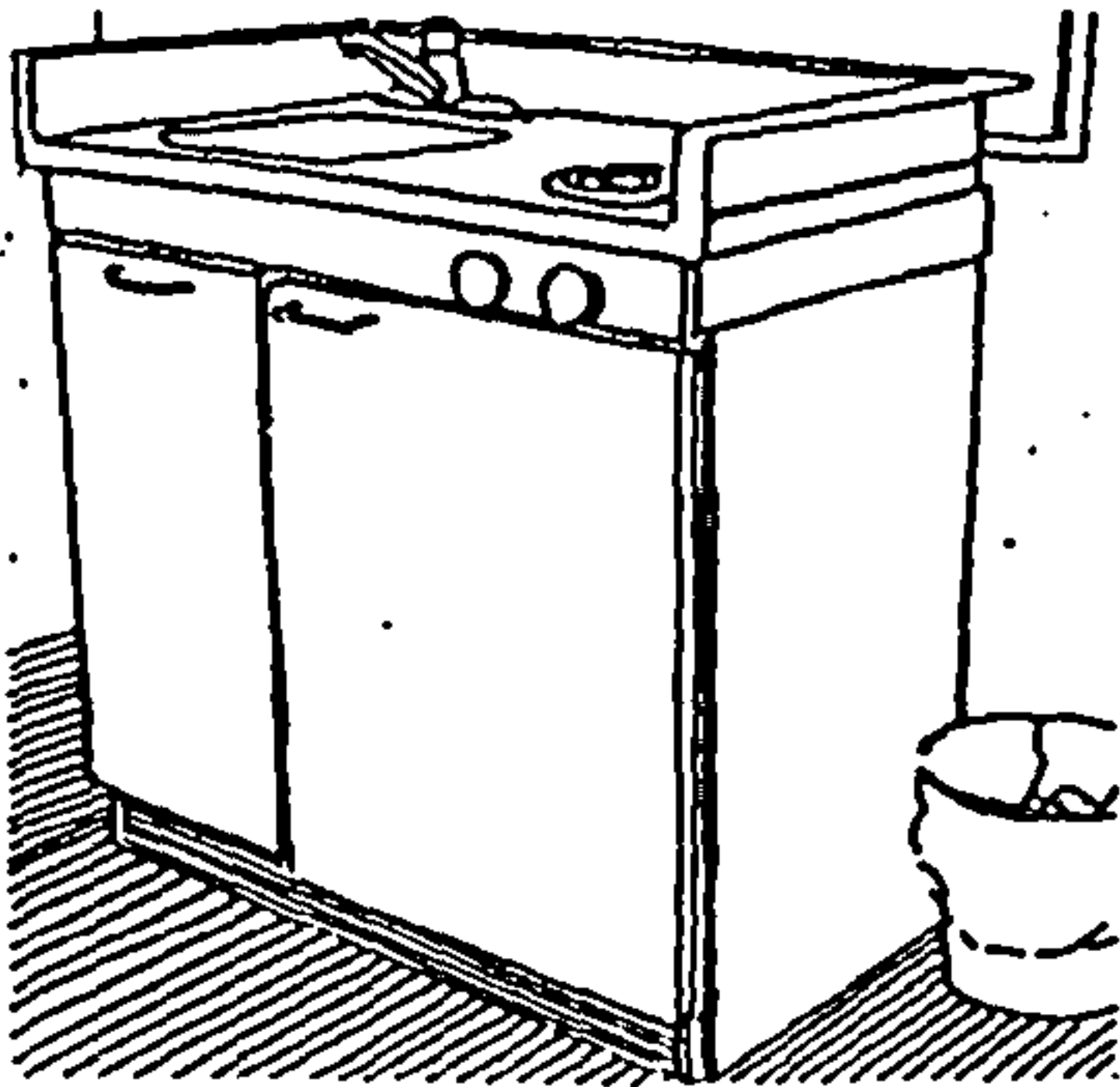
(b) Building exterior view



(c) Reception area



(d) Typical bedroom



(e) Multi purpose
kitchen cabinet

S.33 Building Number 3/5

Building No. 3/5 “ Abraham Lolo Building” is a residential building. An extension made of corrugated sheeting was built at the top to increase the capacity. The ground floor of the building is divided into two parts: 1) the entrance, stair case, elevator and electricity substation and 2) an apartment consisting of a large sitting room, dining room, 2 bedrooms and 2 toilets. The other three floors have been typically divided into 7 bedrooms, a kitchen and three toilets. All the bedrooms (furnished with carpets and sleeping cushions) are rented on an individual basis, by which the pilgrims can share the large sitting room and the washing room (f) on the ground floor. The elevation is characterised by the use of ceramic patterned tiles for the ground floor and painted plaster for the upper floors (c).

Fig C.33

Qiblah
←→ N

(b) Typical floor plan

Sleeping Area
292.13 m²

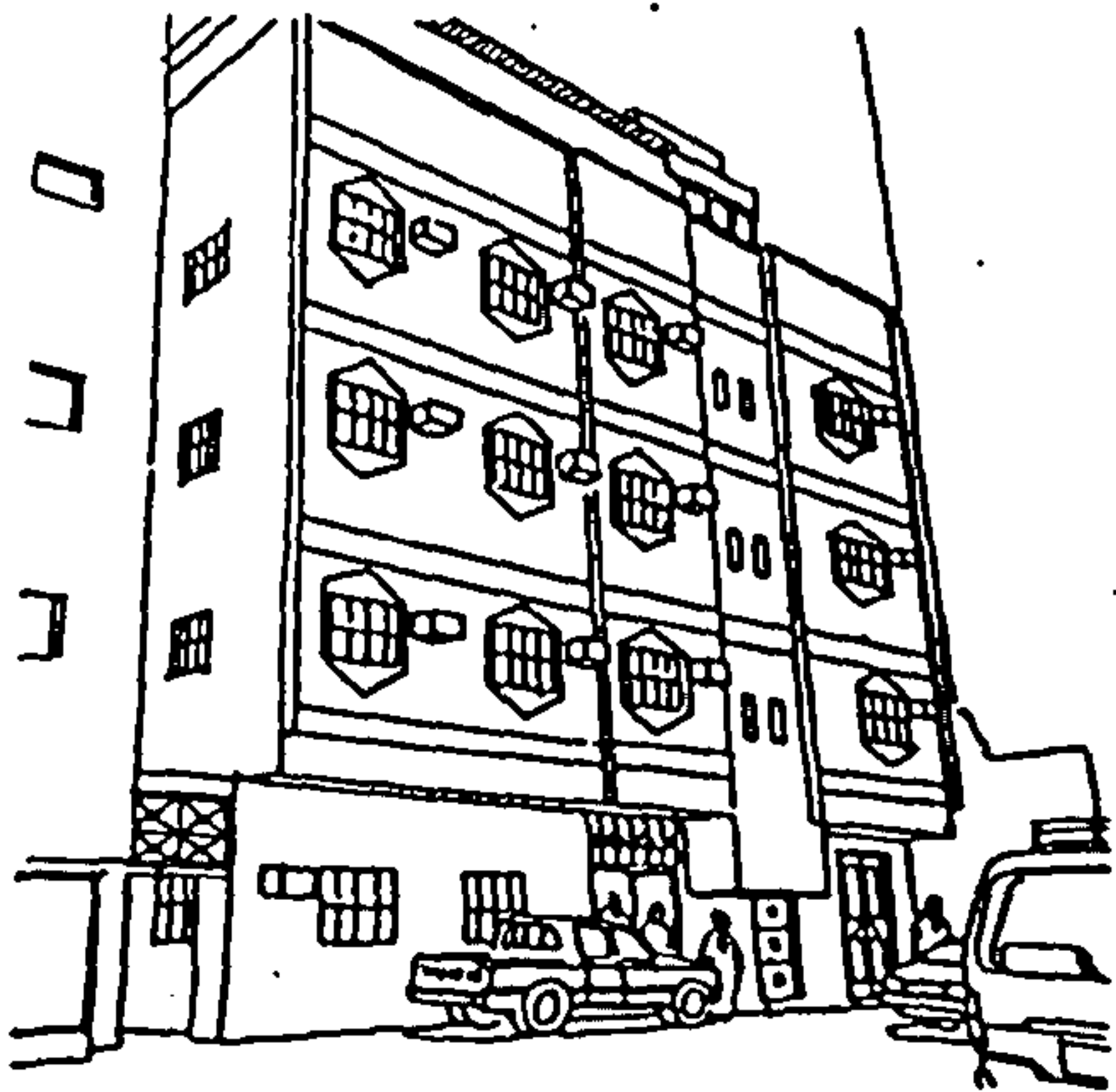
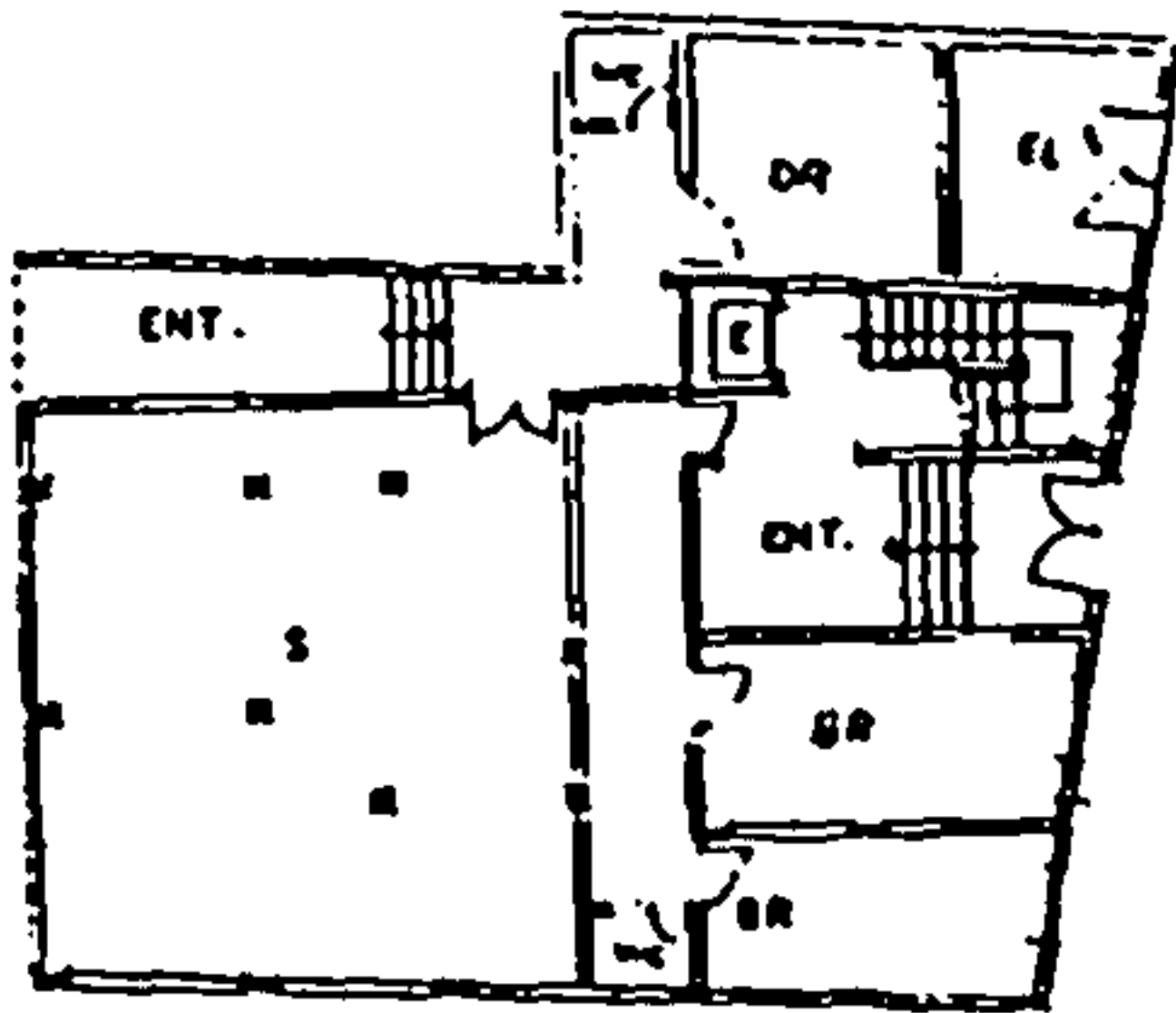
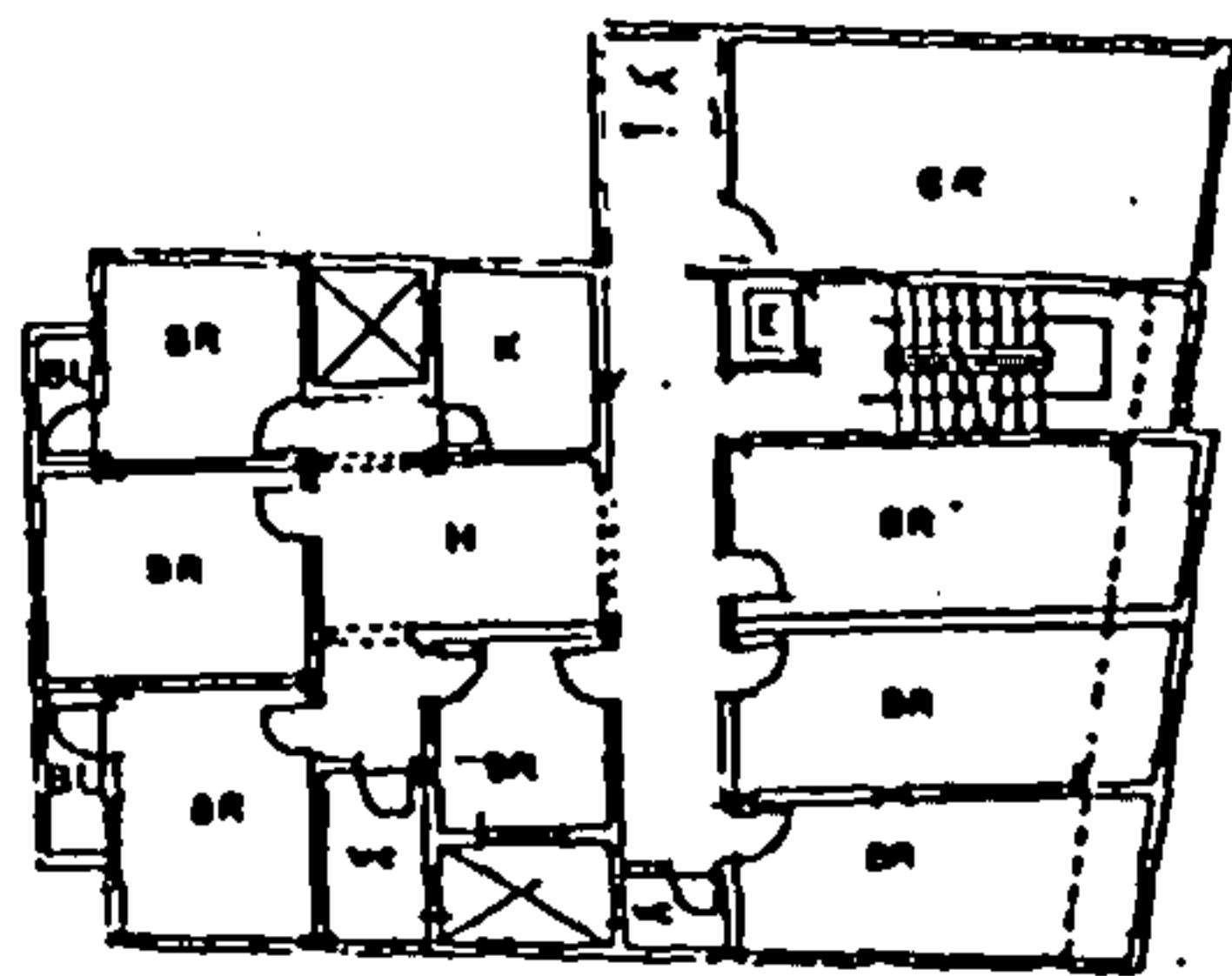
Storeys
4 storeys

Rooms
22 rooms

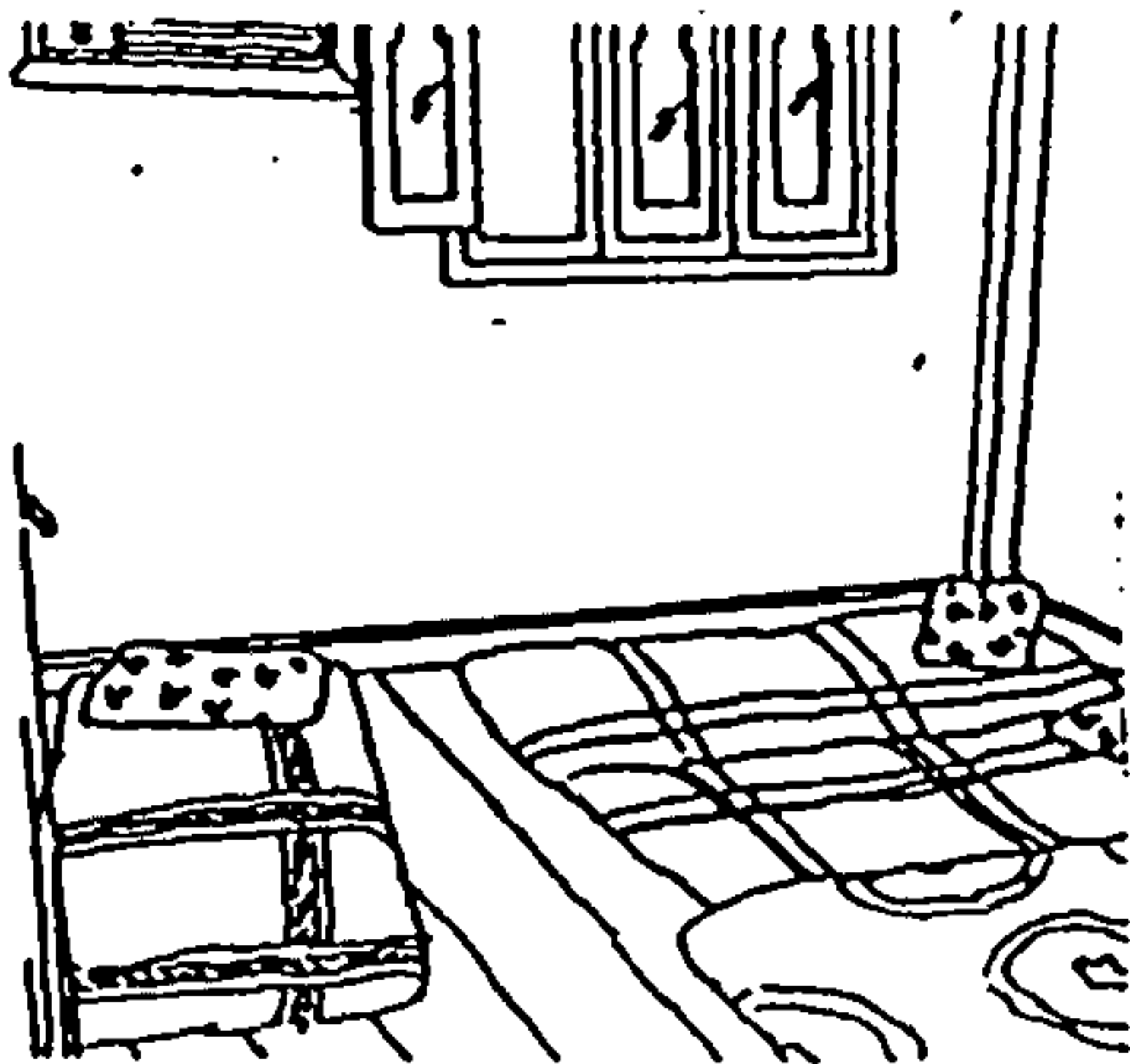
Capacity
117 pilgrims

5m
Scale

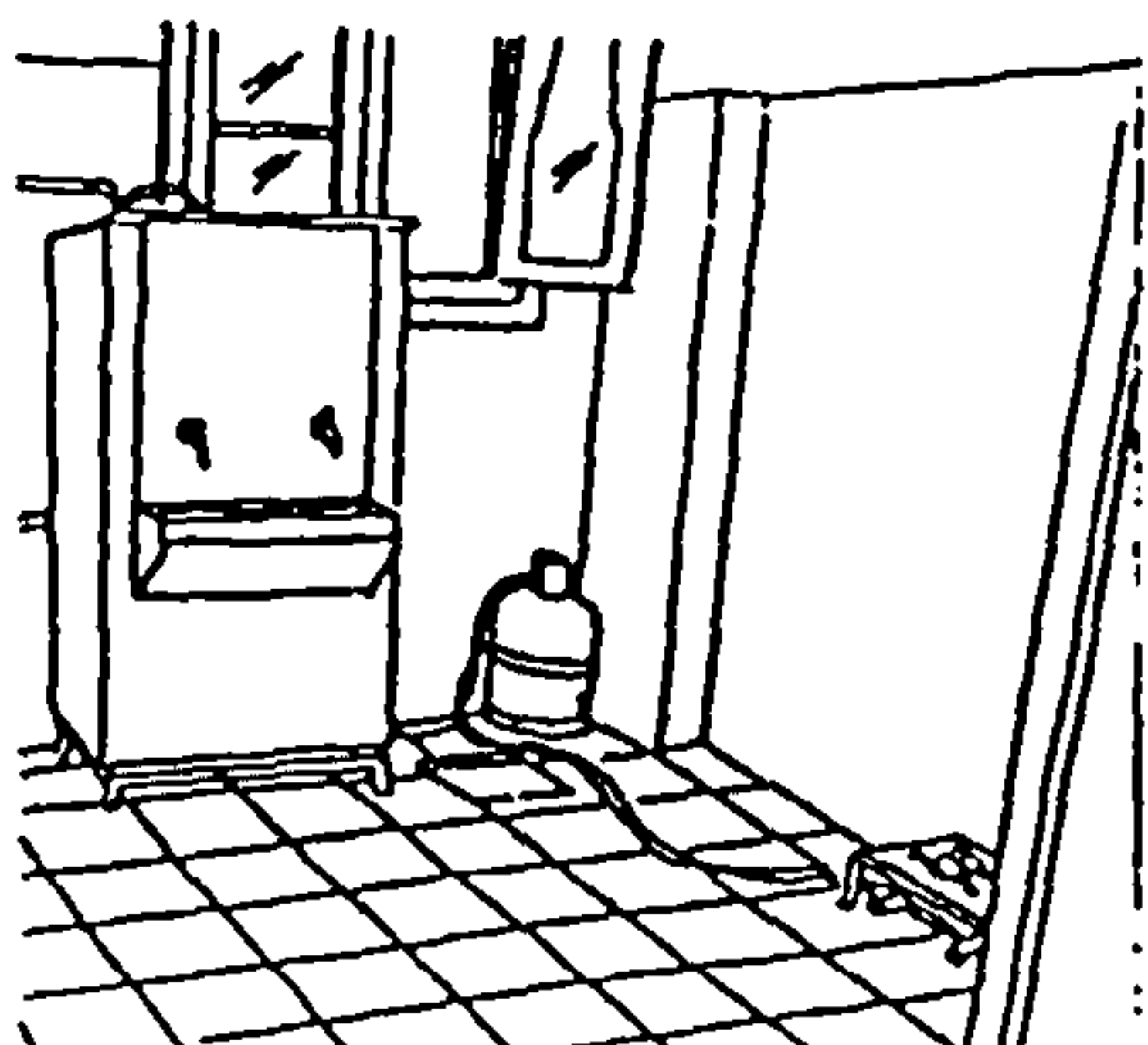
(a) Ground floor plan



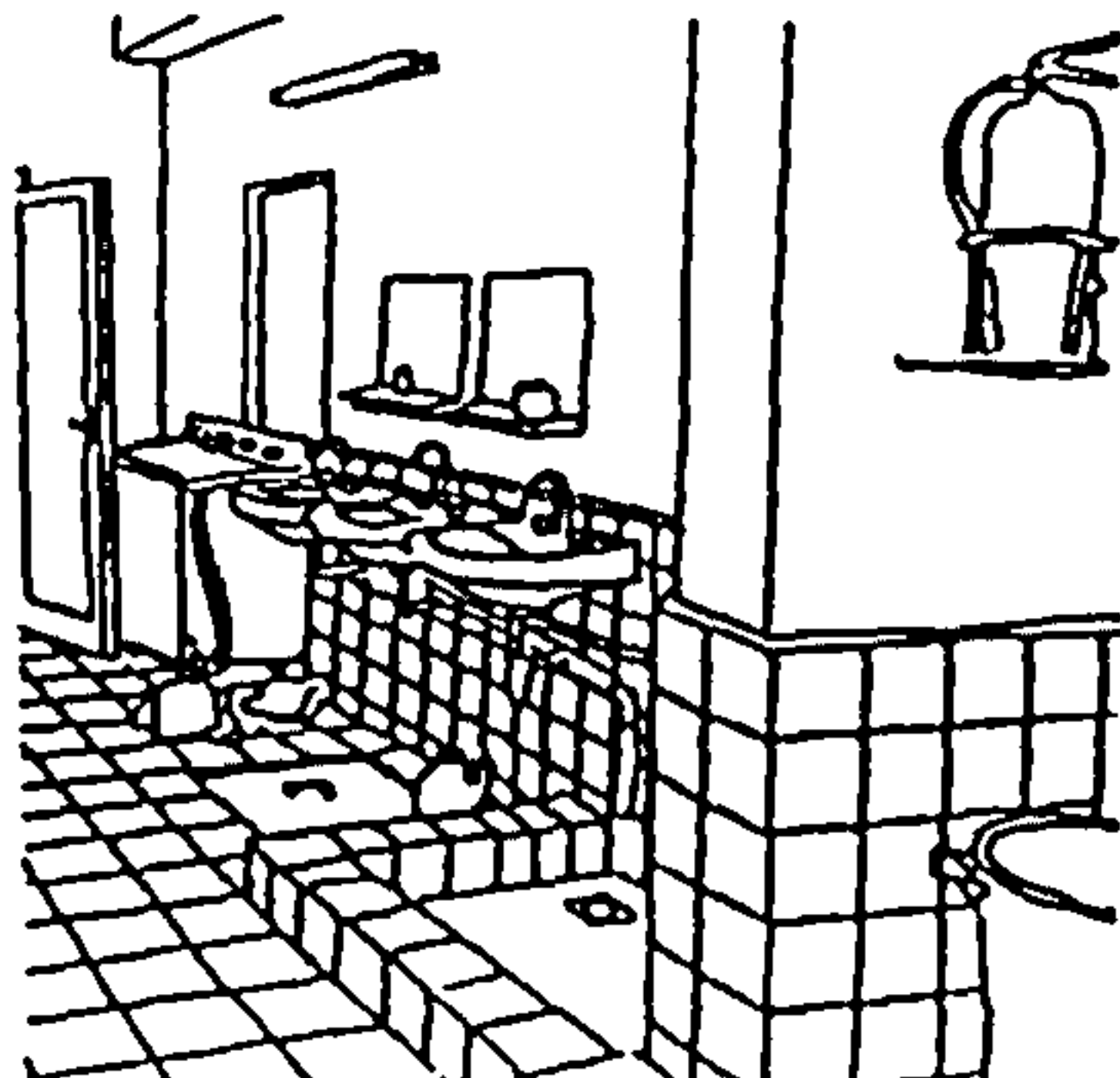
(c) Building exterior view



(d) Typical bedroom



(e) Typical kitchen

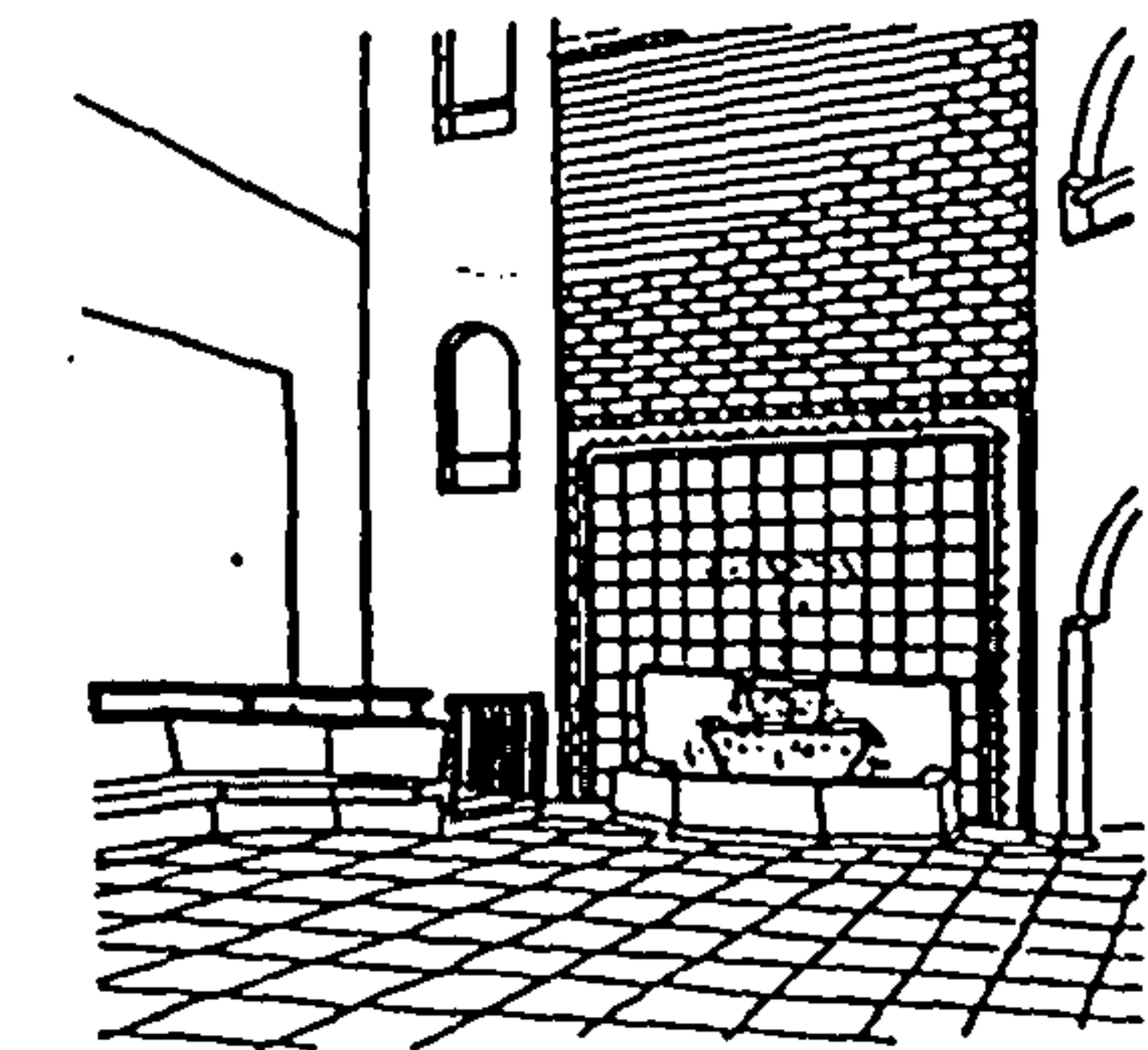
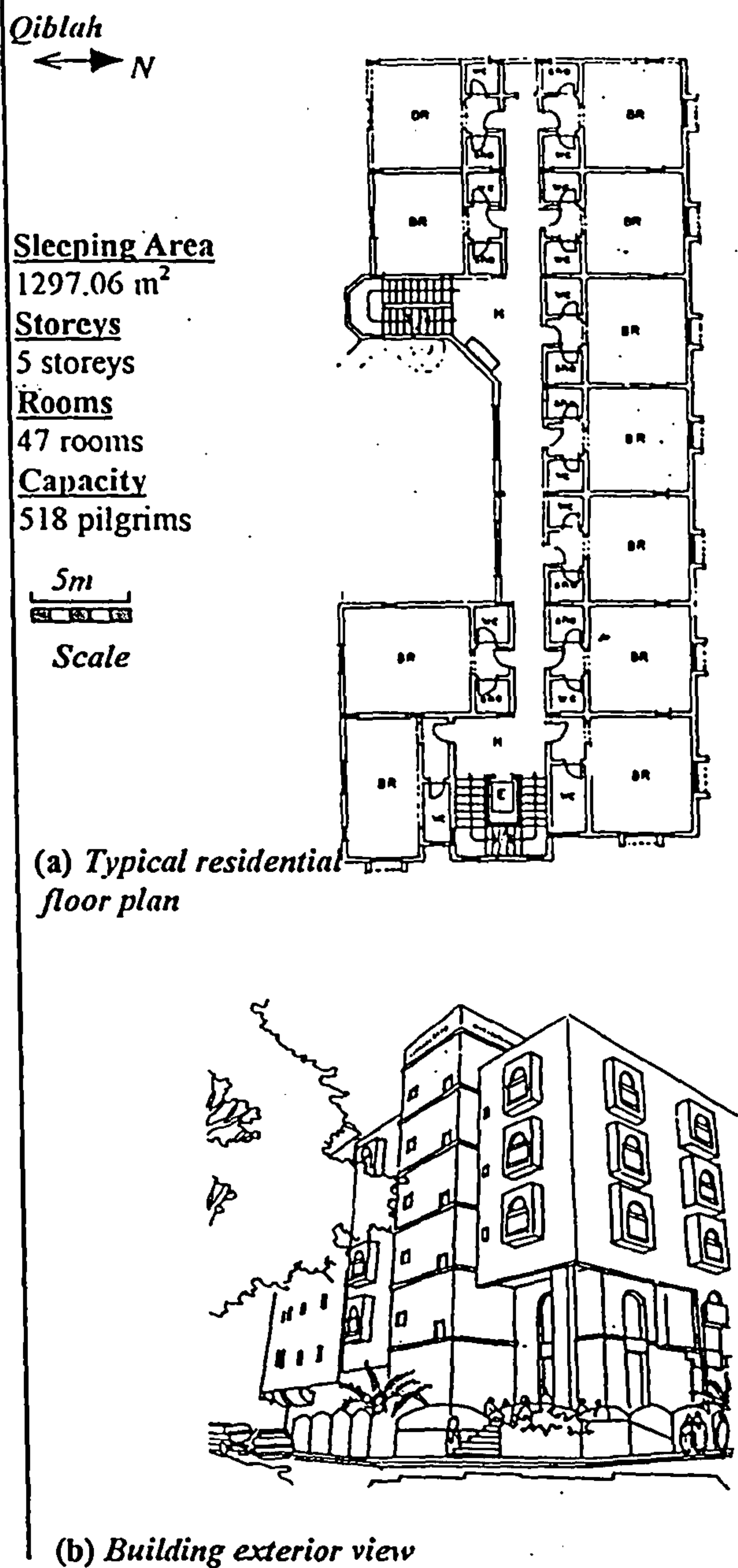


(f) Common washing room

S.34 Building Number 4/5

Building No.4/ “ Masuad Al Hakami Building” is a residential building. The designer tried to apply the idea of the traditional courtyard house. Yet the rectangular shape of the lot necessitated putting the courtyard toward one side of the lot as a patio rather than a central courtyard. This patio containing a fountain and sitting area is used as an internal recreation area for the residents (c). Also the shape results in having a long corridor to serve the rooms. Each contains a toilet on one side of the door and a shower space on the other side. The building contains a common large kitchen on the ground floor. The exterior is characterised by typical arched wooden screened windows which project outside as a base for air - conditioning units. They are used for privacy and hiding these mechanical elements

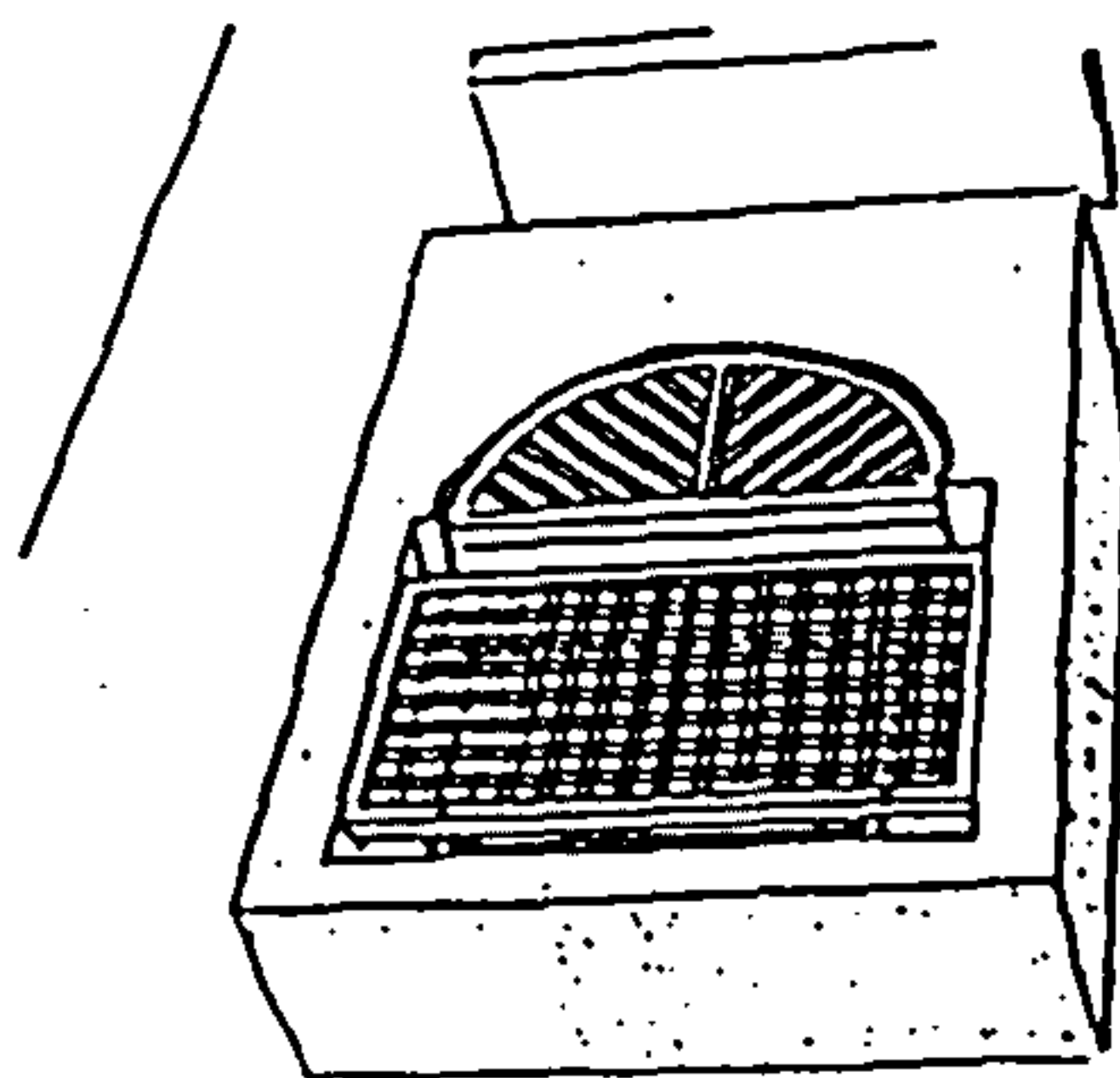
Fig C.34



(c) The patio



(d) Common kitchen

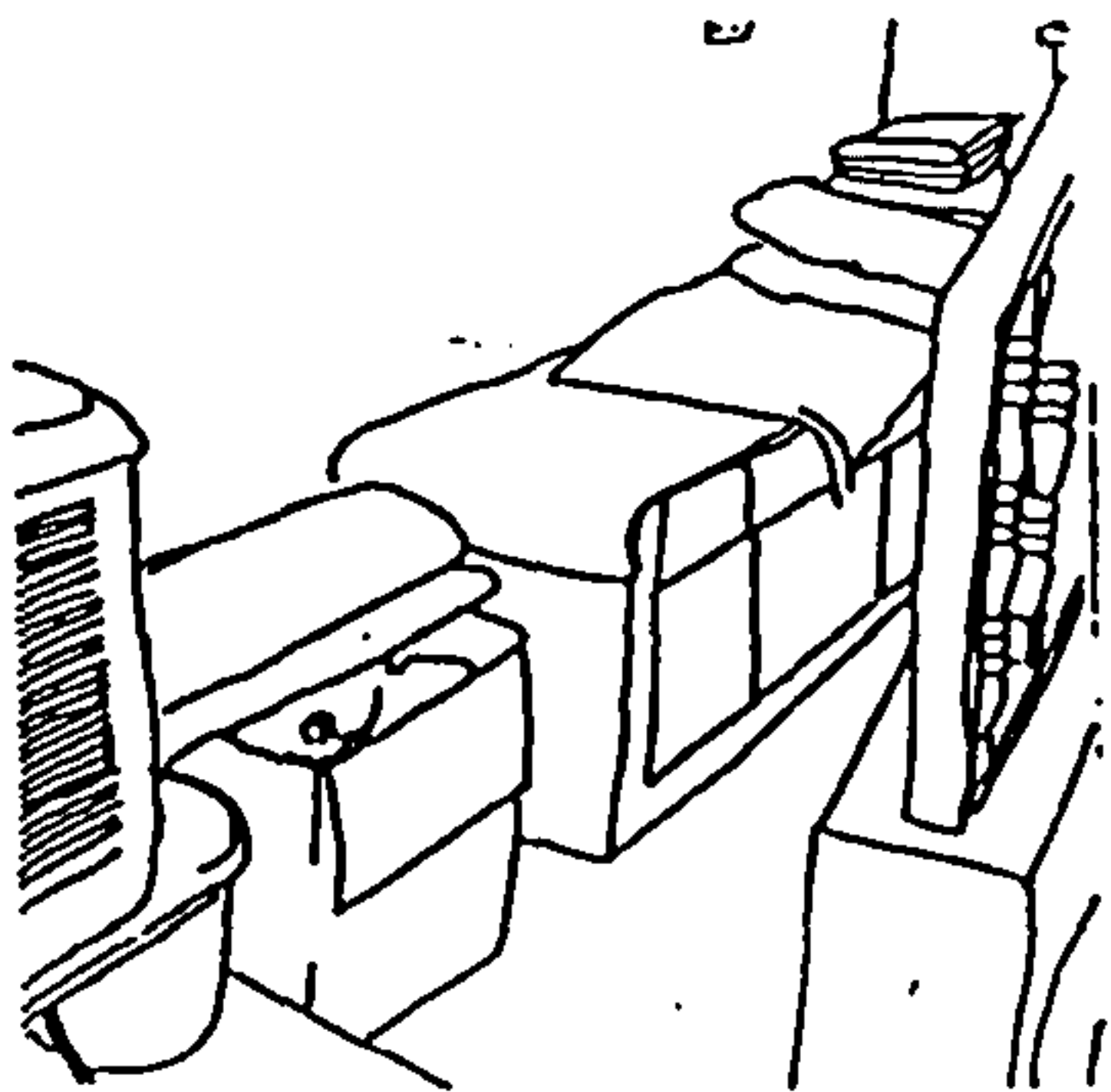
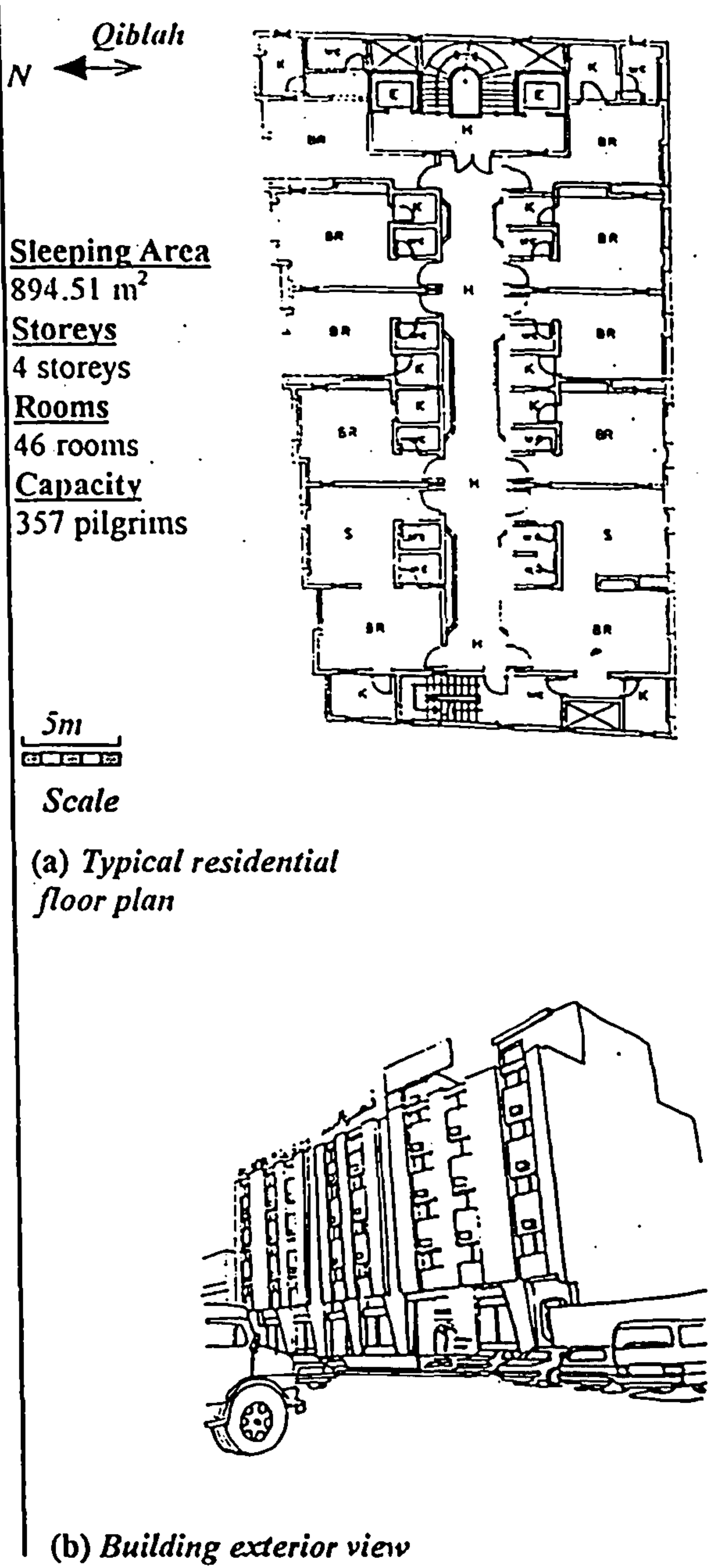


(e) Typical screened window

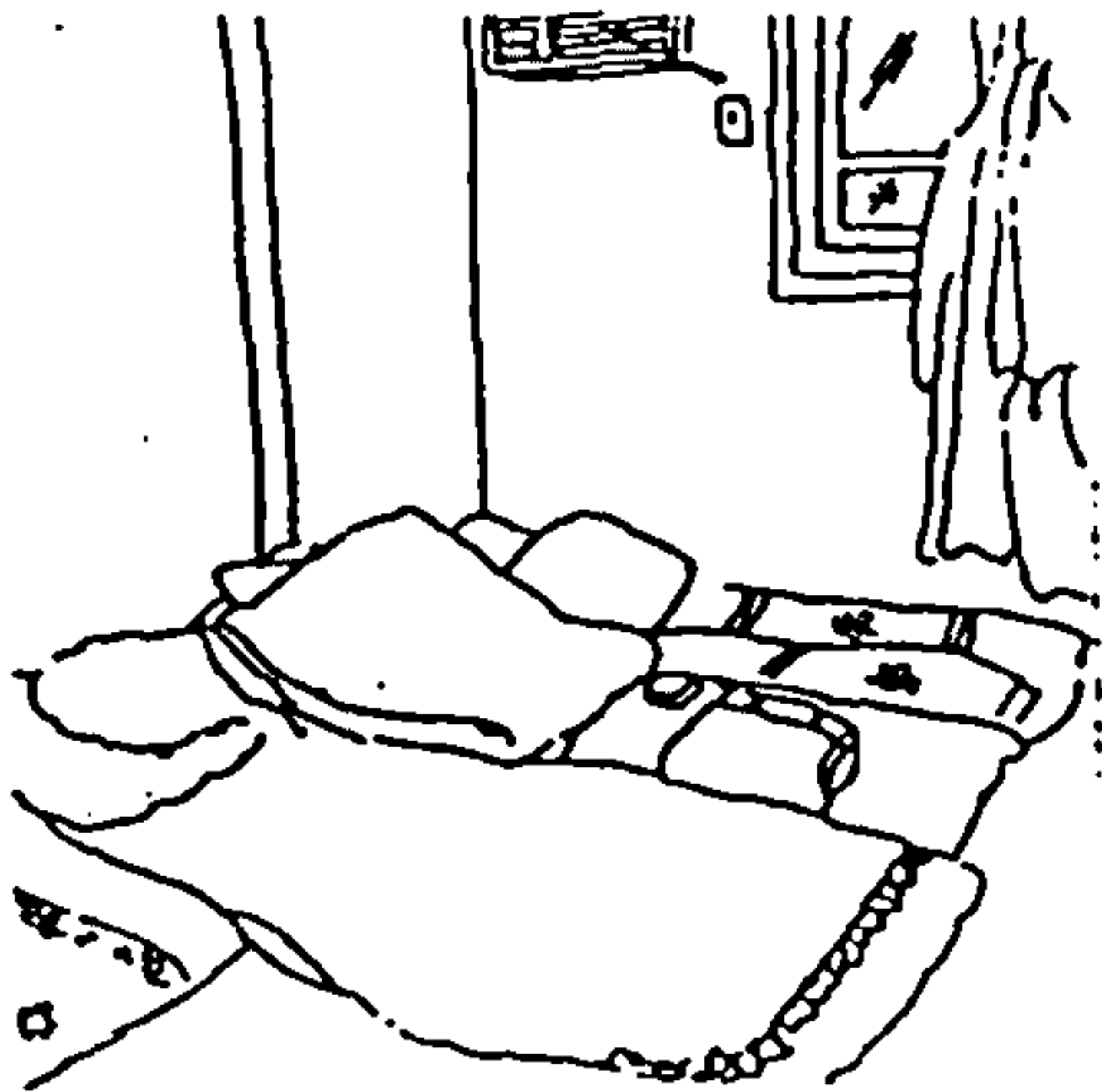
S.35 Building Number 5/5

Building No. '5/5 " Al Bdr Palace" is a commercial / residential building. The ground floor is mostly used for commercial activities, entrance and staircase with the guard bed placed under (c). The typical residential floor is divided by a long corridor serving the 4 bedrooms with one suite on each side (the common hotel design). Each of the bedrooms mostly contains sleeping areas with a kitchen and toilet, while the suites contain an additional sitting area and water closet. Regardless of the original design, all the rooms are furnished with carpets and sleeping cushions (d). The water pipes of the kitchen have been exposed for easy maintenance, but this affects the internal appearance of the building. The main irregular facade has been covered with marble with the air conditioning units located over the recessed windows (b).

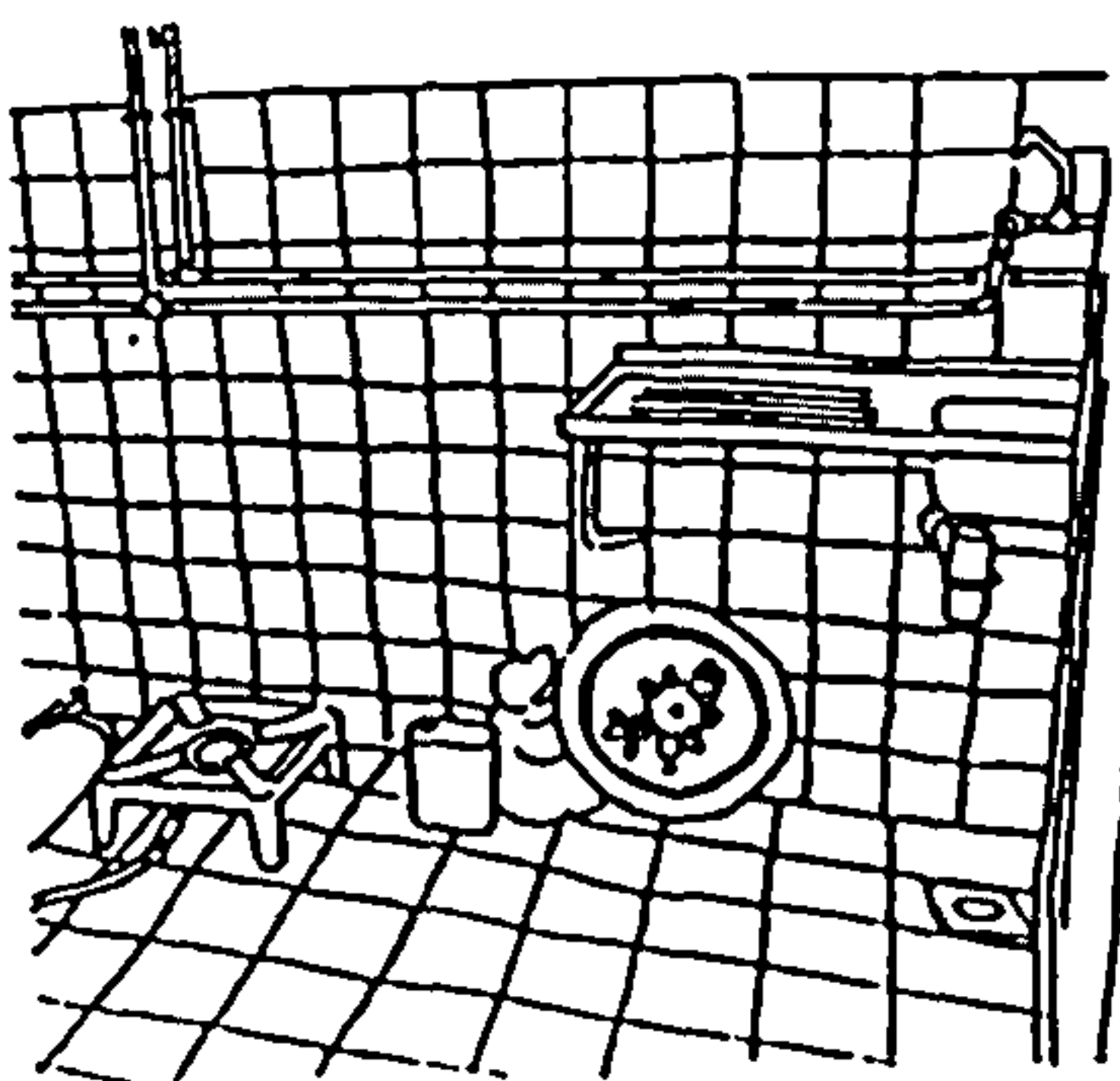
Fig C.35



(c) Reception area



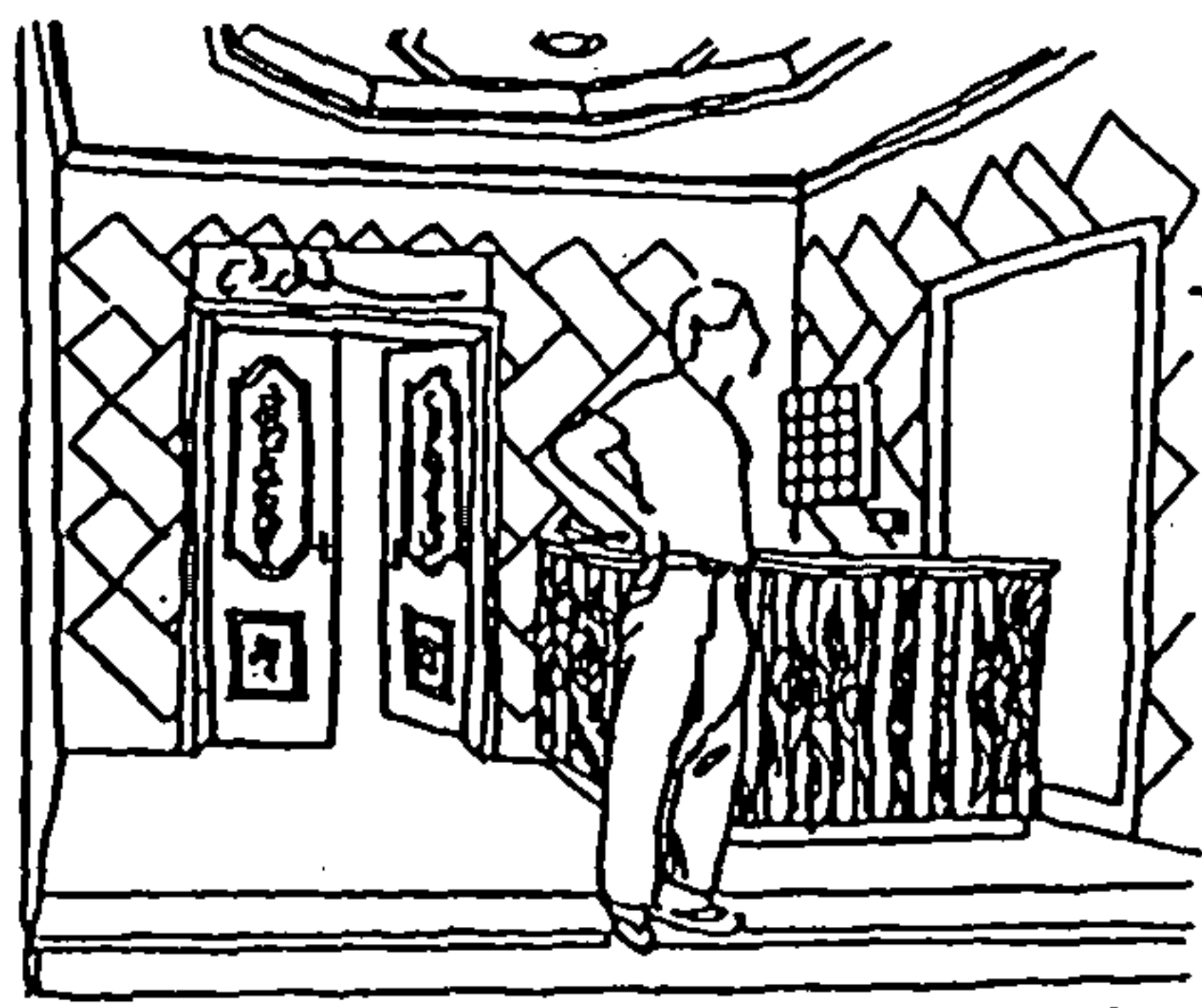
(d) Typical bedroom



(e) Typical kitchen

S.36 Building Number 6/5

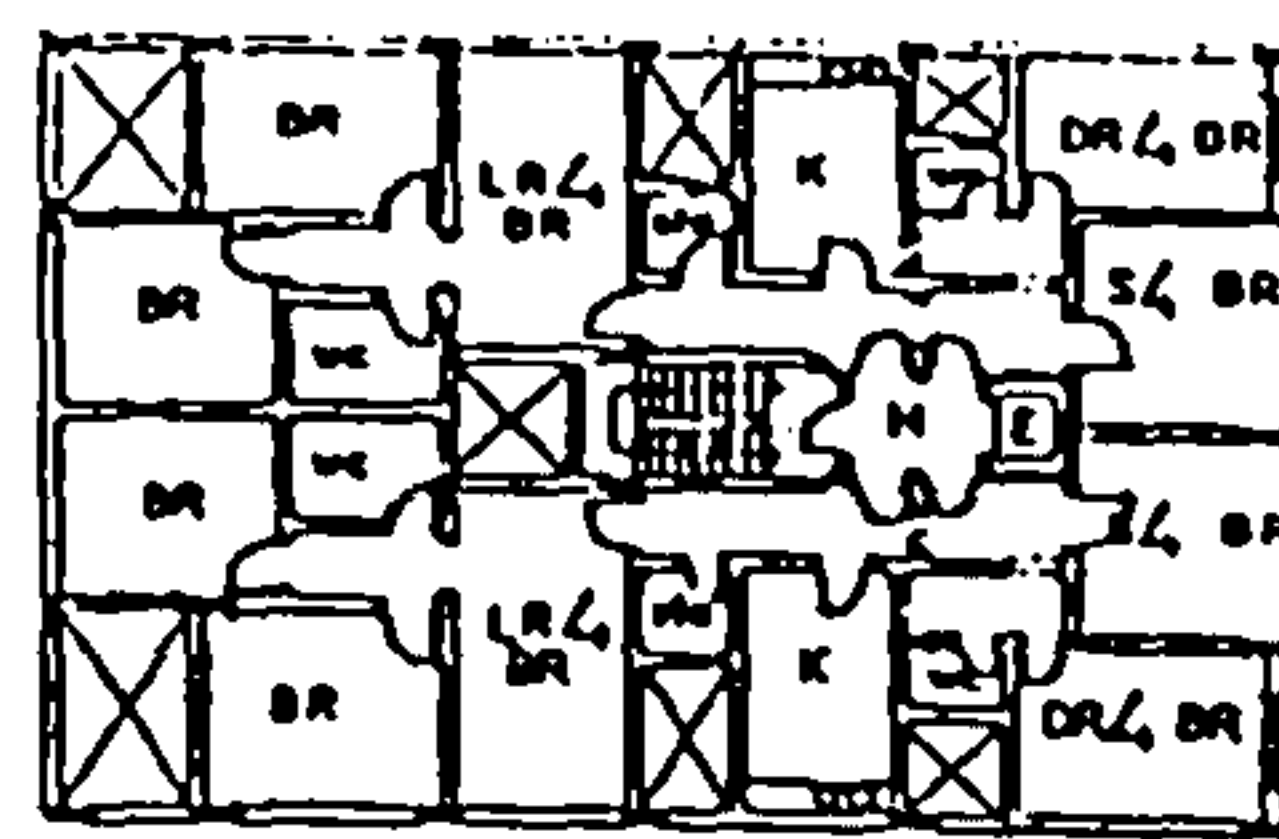
Building No. 6/5 "Salman Al Nakhly" is a 4 storey commercial / residential building, but the parapet has been raised for further extension. The ground floor is divided into: 1) the front area composed of shops, electricity substation and the main entrance (d), (Qur'anic calligraphy is used as a decorative and attractive element), and 2) the back area is an apartment with two entrances one leading to the men's quarters (men's sitting room, dining room and men's toilet) and the other leading to the women's quarters (women's sitting room, women's toilet, living room, two bedrooms, family toilet and kitchen). Each of the upper floors is divided into two symmetrical apartments for separating the men's area from the women's. The elevation and the entrance are covered with marble in a clearly defined pattern.



(c) Reception area

Fig C.36

Qiblah



(b) Typical floor plan

Sleeping Area

856.59 m²

Storeys

4 storeys

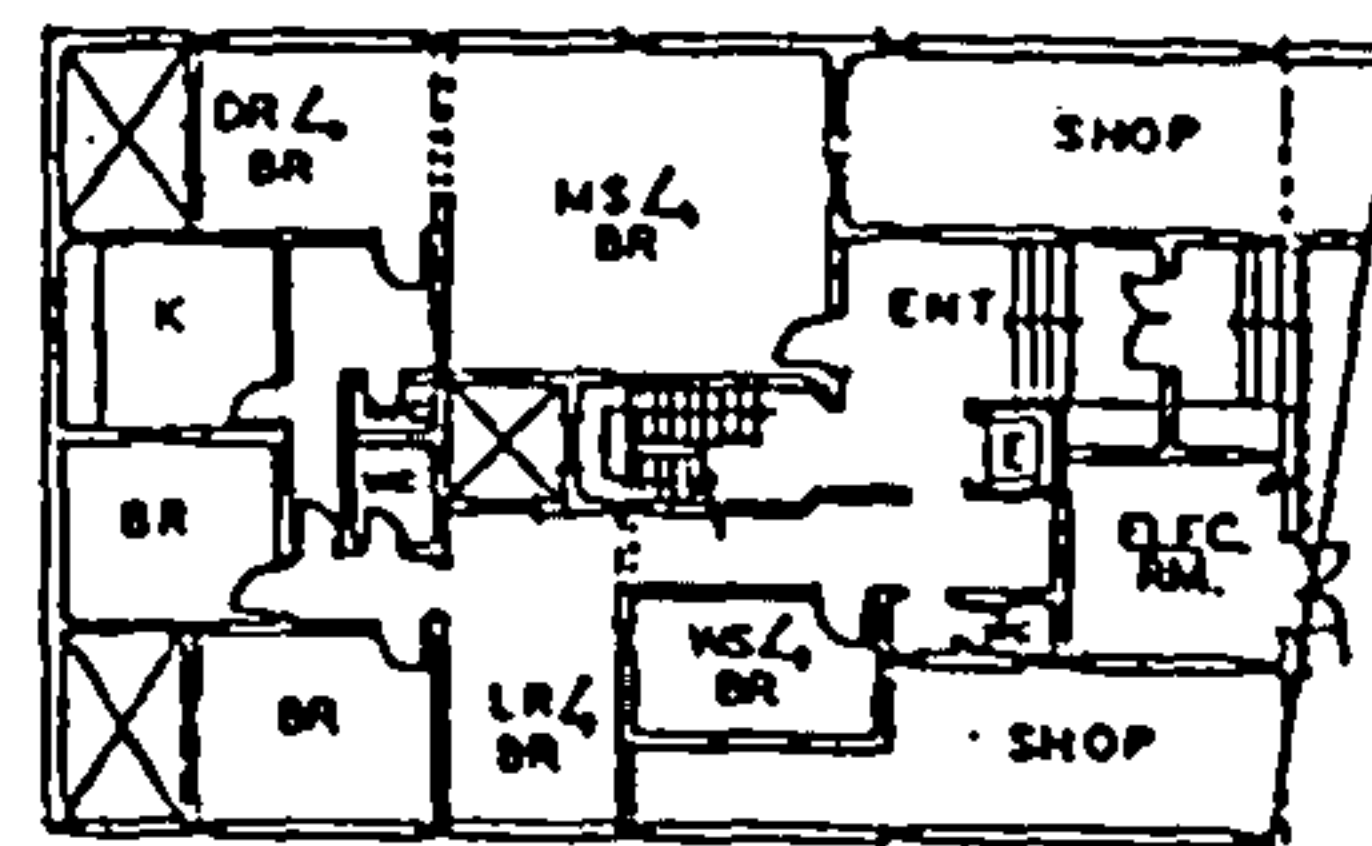
Rooms

38 rooms

Capacity

349 pilgrims

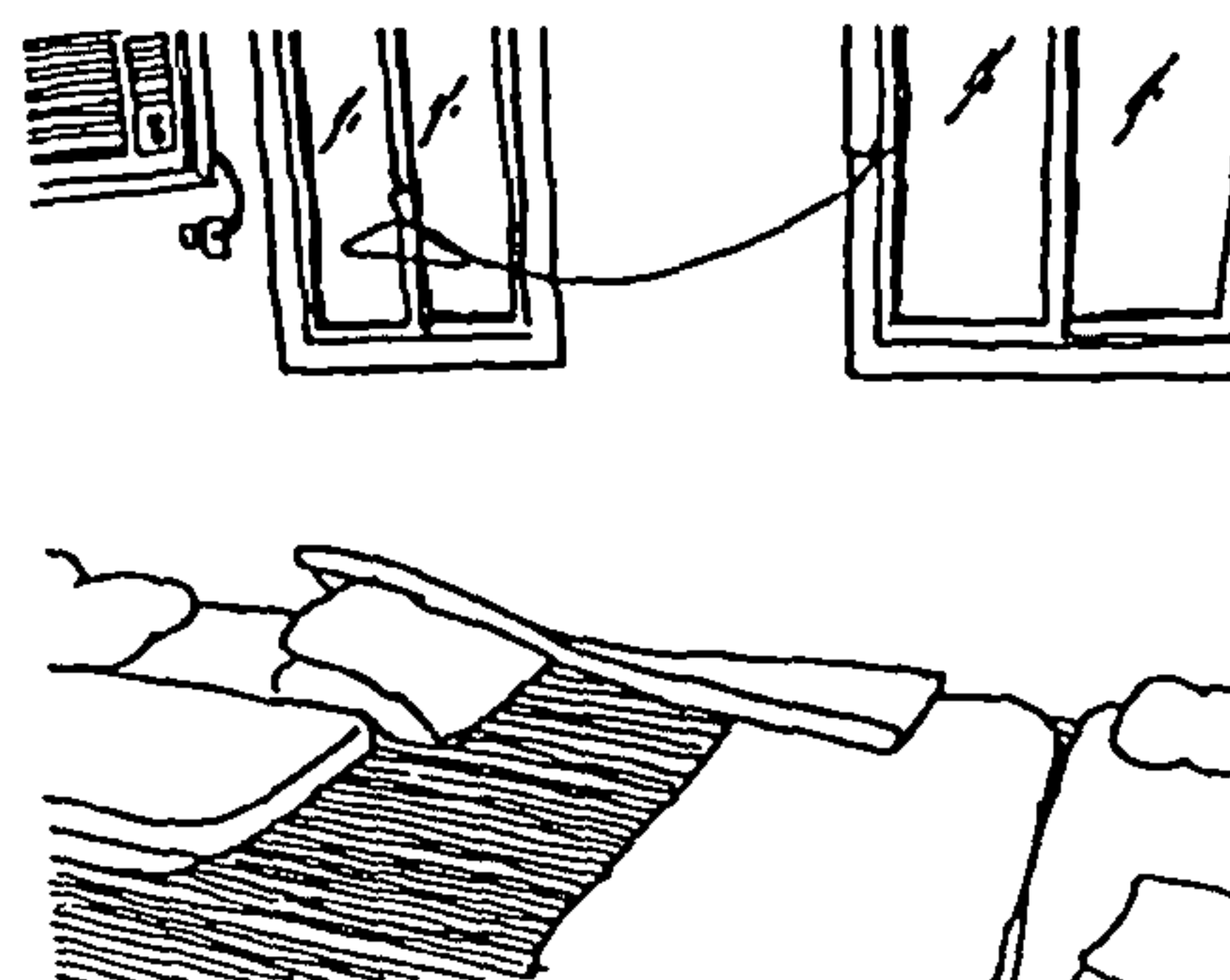
5m



Scale (a) Ground floor plan



(c) Building exterior view

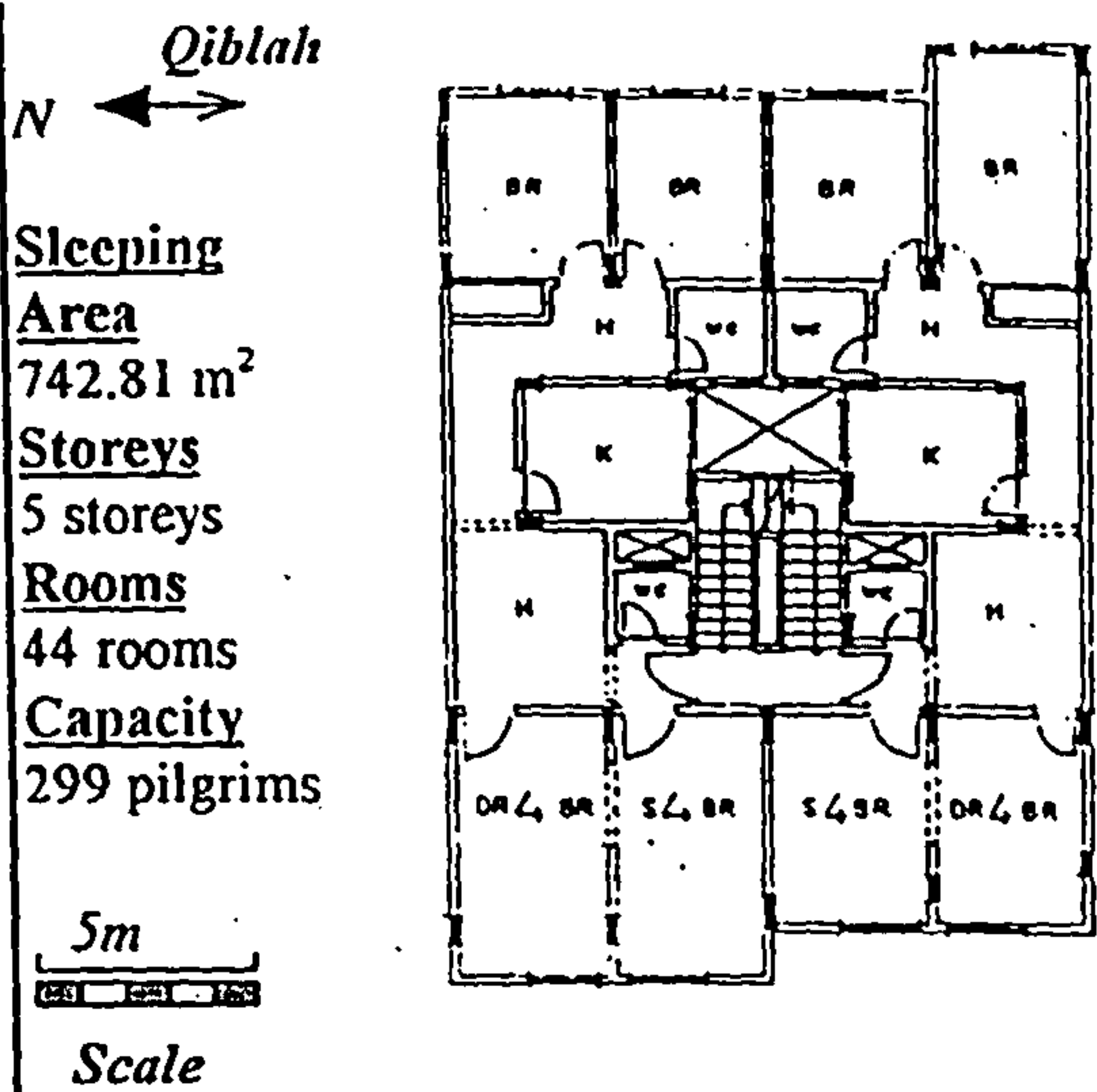


(d) Typical bedroom

S.37 Building Number 7/5

Building No. 7/5 “ Ail Rajab Al Nakhali Building” is a residential building. Each floor is typically divided into two approximately symmetrical apartments. The staircase, the main corridor, toilets, kitchens, and the shafts are located in the core of the building. Rooms are positioned at the perimeter for both ventilation and lighting purposes. Each apartment is divided into two areas: 1) the men’s quarters (sitting room which is connected to the dining room by a folding door, and the men’s toilet) and 2) the family quarter (two bedrooms, kitchen and family toilets). Those two quarters were separated by a large hall for privacy and circulation. The rooms are furnished with the sleeping cushions and carpets (c). The elevation is characterised by the wooden windows which contain glass inside and wooden louvers outside (b).

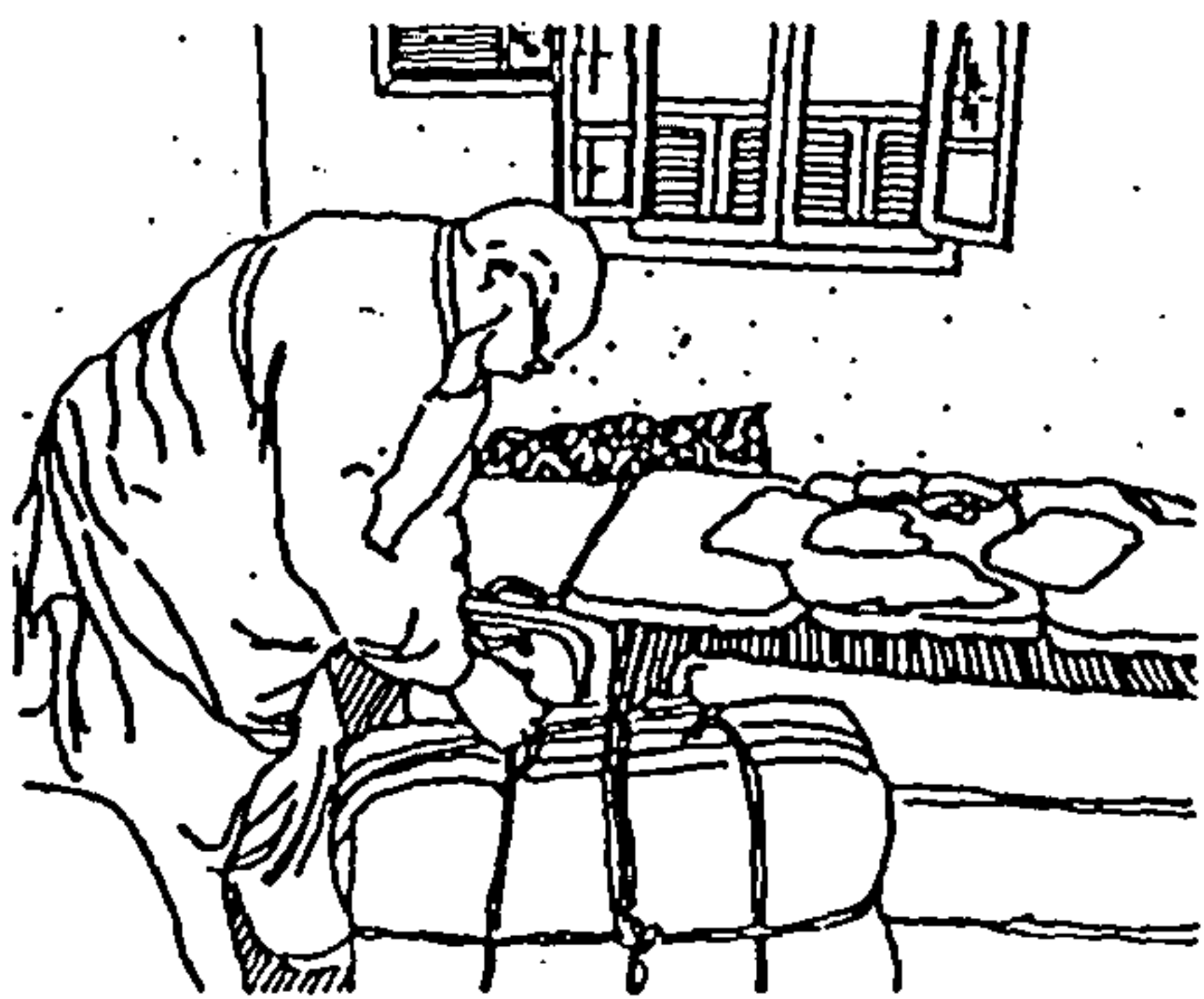
Fig C.37



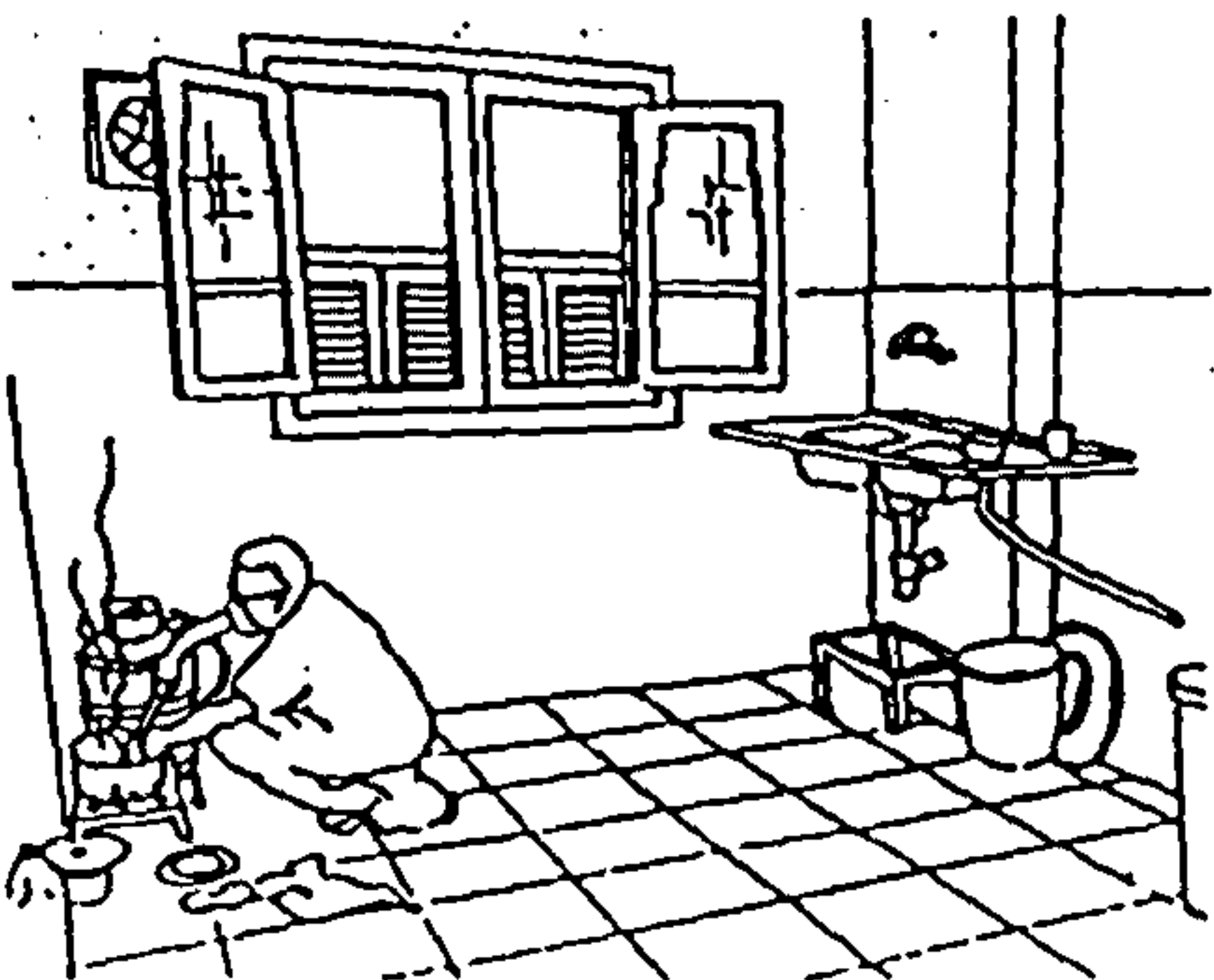
(a) Typical floor plan



(b) Building exterior view



(c) Typical bedroom

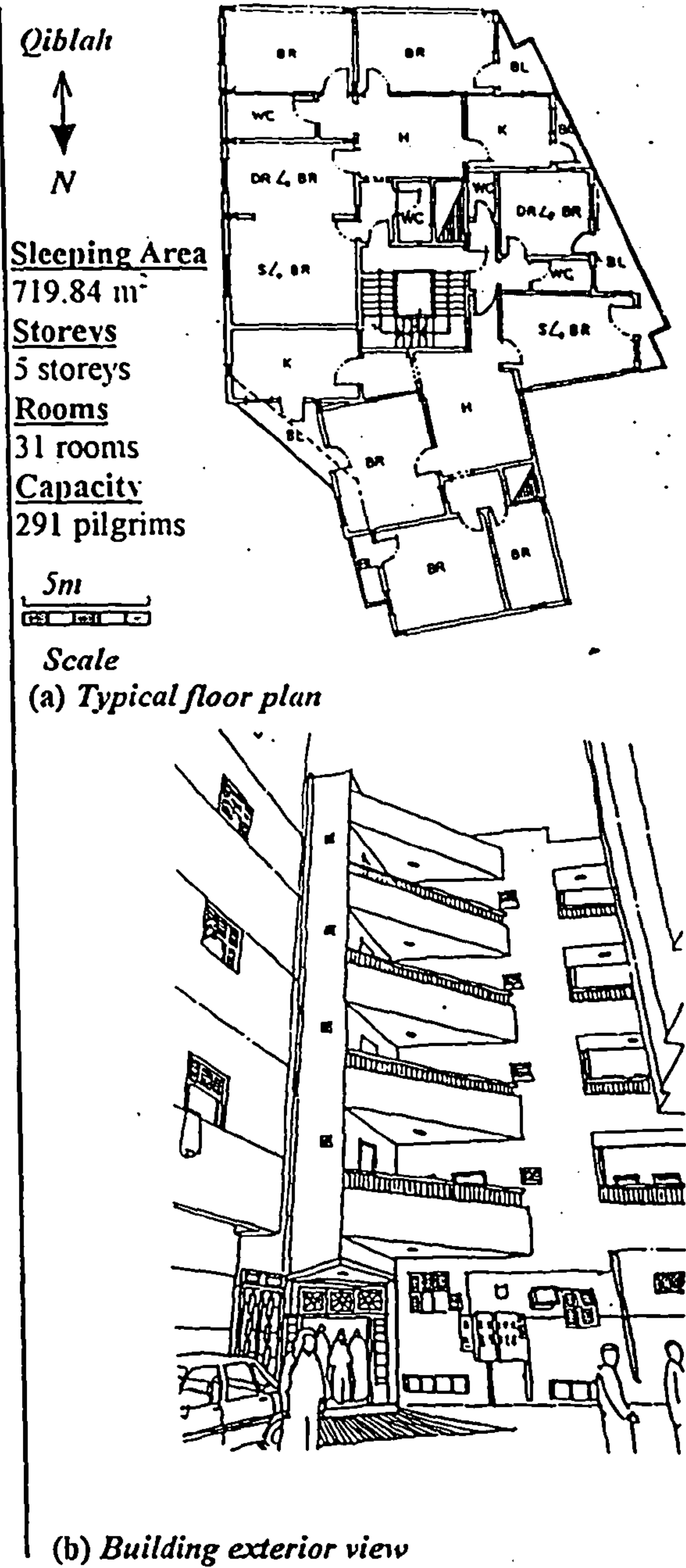


(d) Typical kitchen

S.38 Building Number 8/5

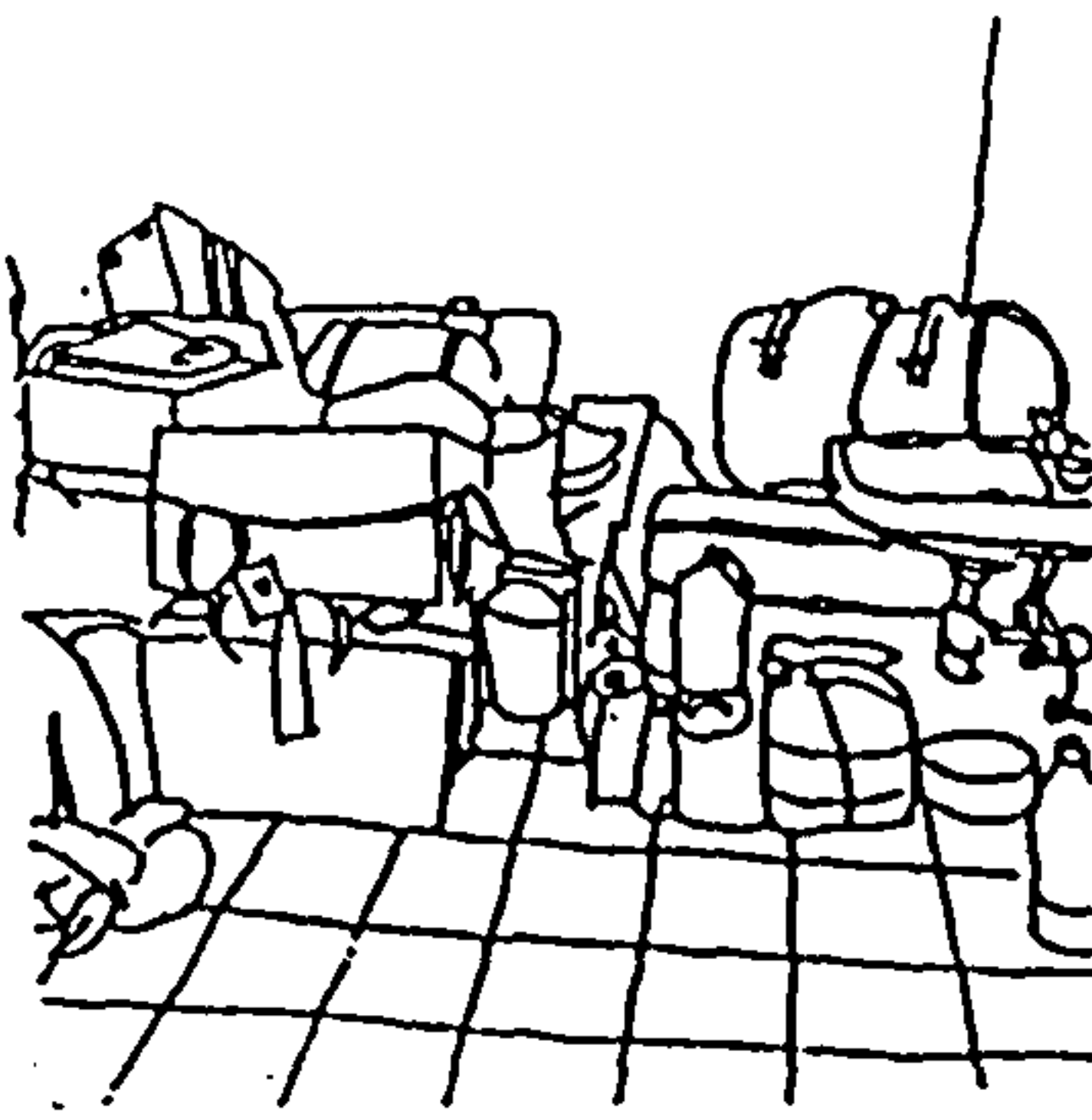
Building No. 8/5 “Mohammed Al Amri” is a residential building. The site, which is located at the corner of an L shape street, affects both the building’s main entrance and the whole layout. Each floor is divided into two apartments which basically contain two sections: 1) men’s quarter’s (men’s sitting room, dining room, men’s toilet) and the family quarters (2 to 3 bedrooms, kitchen, hall, and family toilet). With respect to the irregular shape of the lot, an attempt has been made to keep the rooms in a rectangular shape which actually results in triangular balconies (a, b). Some of rooms are furnished with wooden beds, curtains, rugs, T.V. and telephone, while others are furnished with carpets and sleeping cushions (c, d). The elevations are characterised by the triangular balconies with steel bars for safety rather than privacy (b).

Fig C. 38



(c) Bedroom - furnished
with wooden beds

(d) Bedroom - furnished
with sleeping-cushions

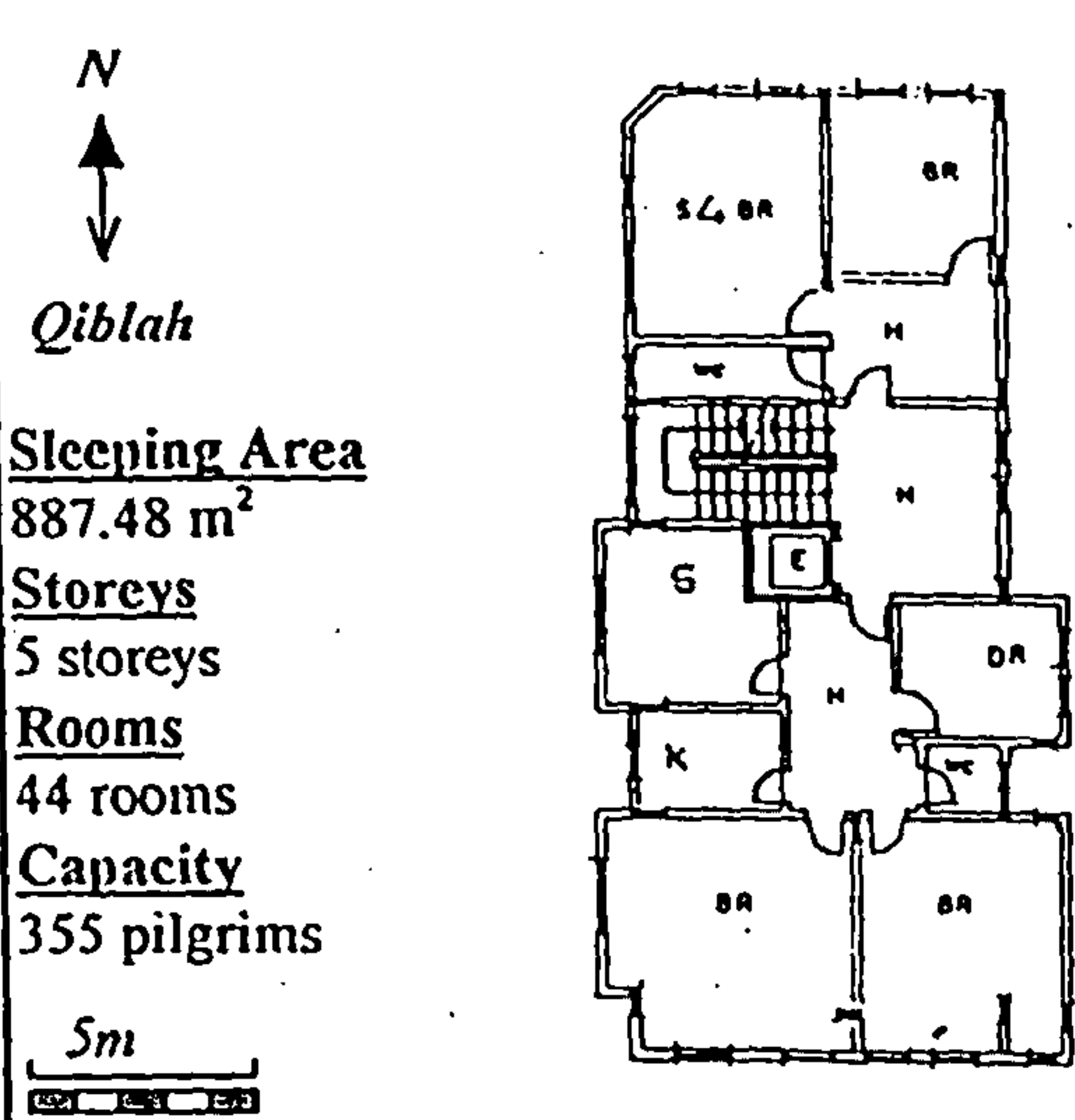


(c) Apartment hall -
used as storage space

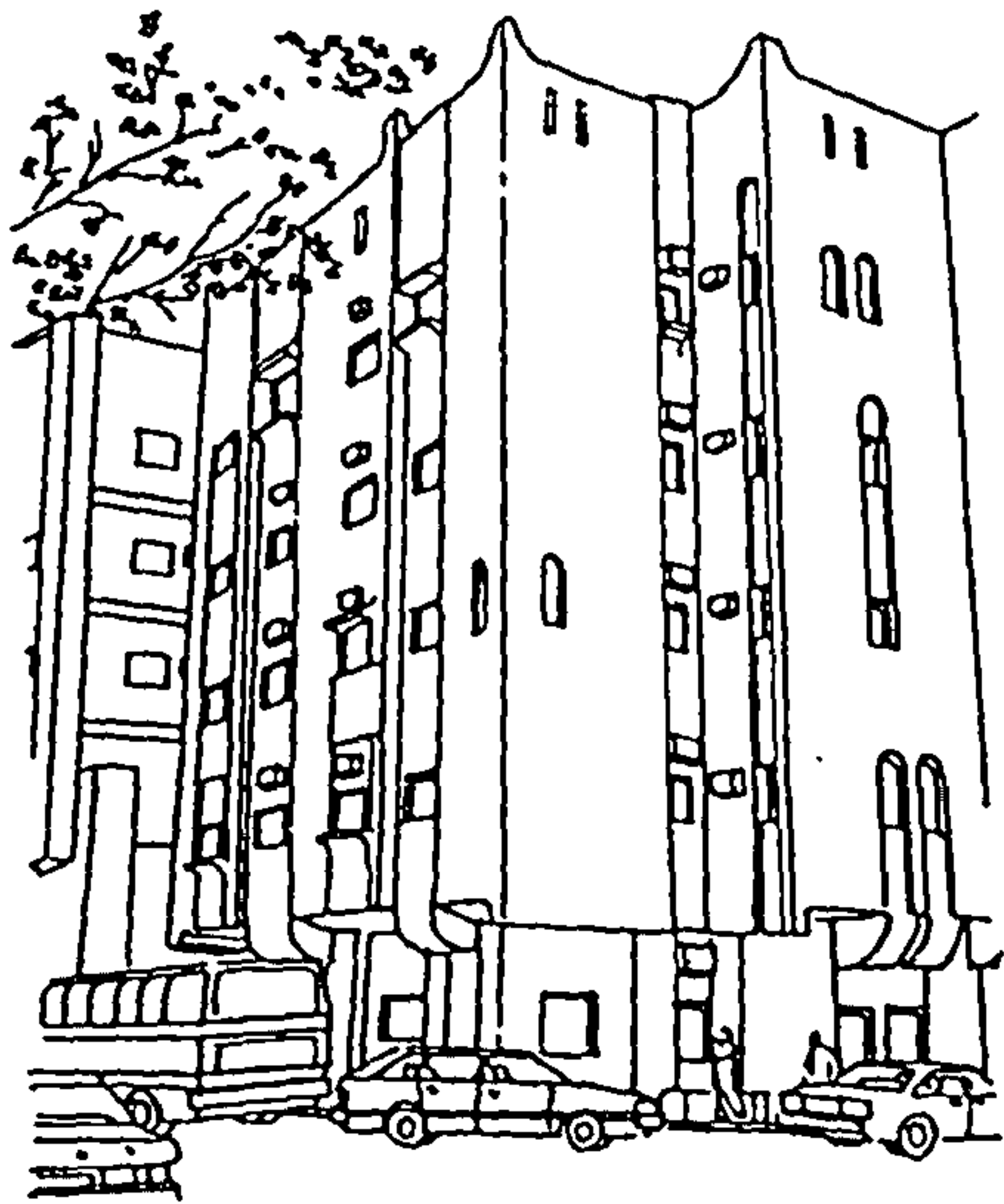
S.39 Building Number 9/5

Building No. 9/5 “Waqf Abdulrahman Al Yas” is a residential building. The upper floors, typically contain two apartments. The first apartment contains a sitting room, bedroom, hall and toilet. Where, the second apartment contain a salon, dining room, 2 bed rooms, kitchen and toilets. All the rooms are furnished with sleeping-cushions and thus are treated as bedrooms. Also, the rooms are rented individually with the kitchen of the second apartment shared by the pilgrims occupying the first one. The external form of the building reflects the traditional multi story building of the southern region of Saudi Arabia, but the walls project outside as the height increases (b). However, the wall mounted electricity meters with the exposed cables affect the aesthetic of the external elevations (b).

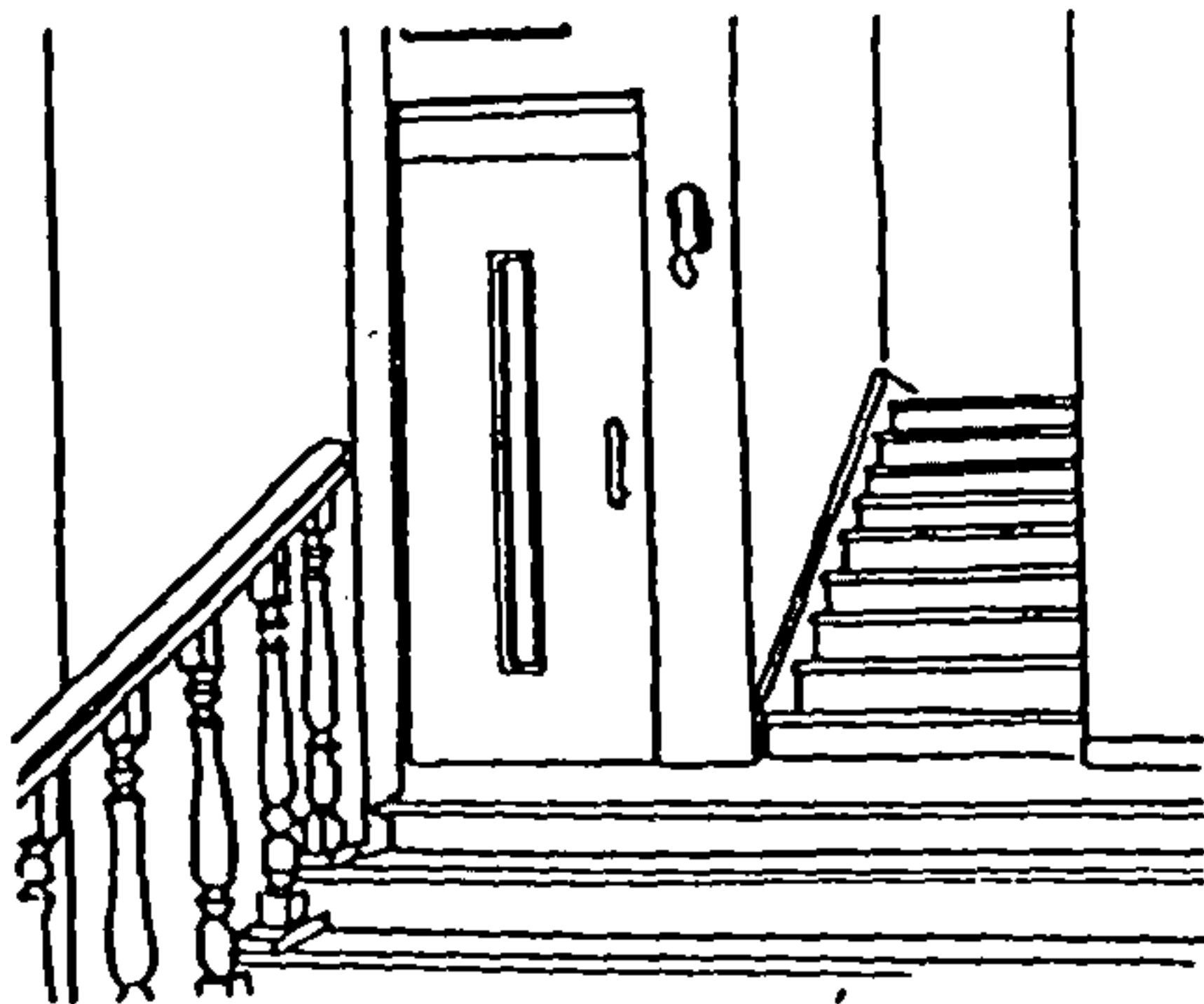
Fig C.39



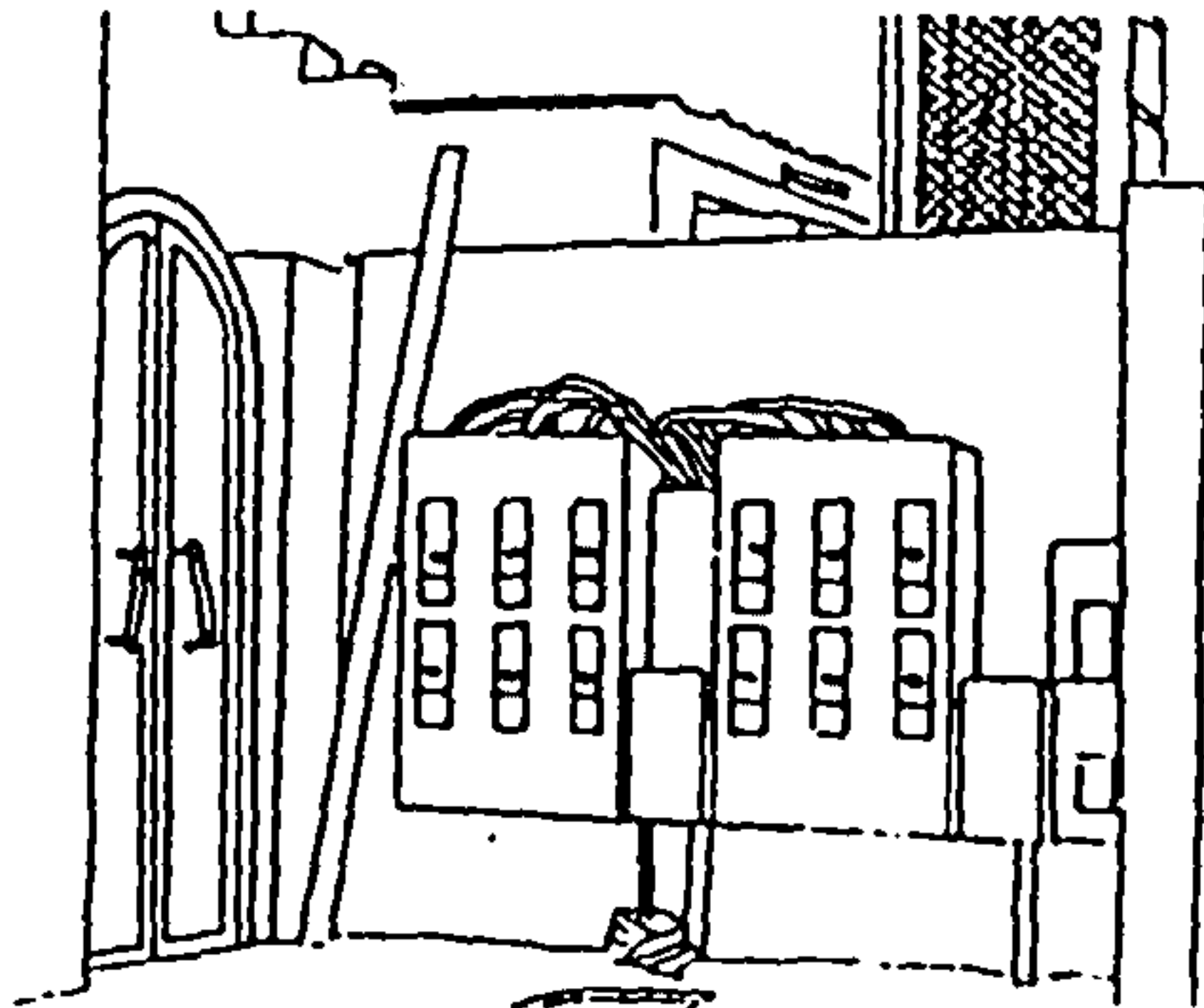
Scale
(a) Typical floor plan



(b) Building exterior view



(c) Main entrance

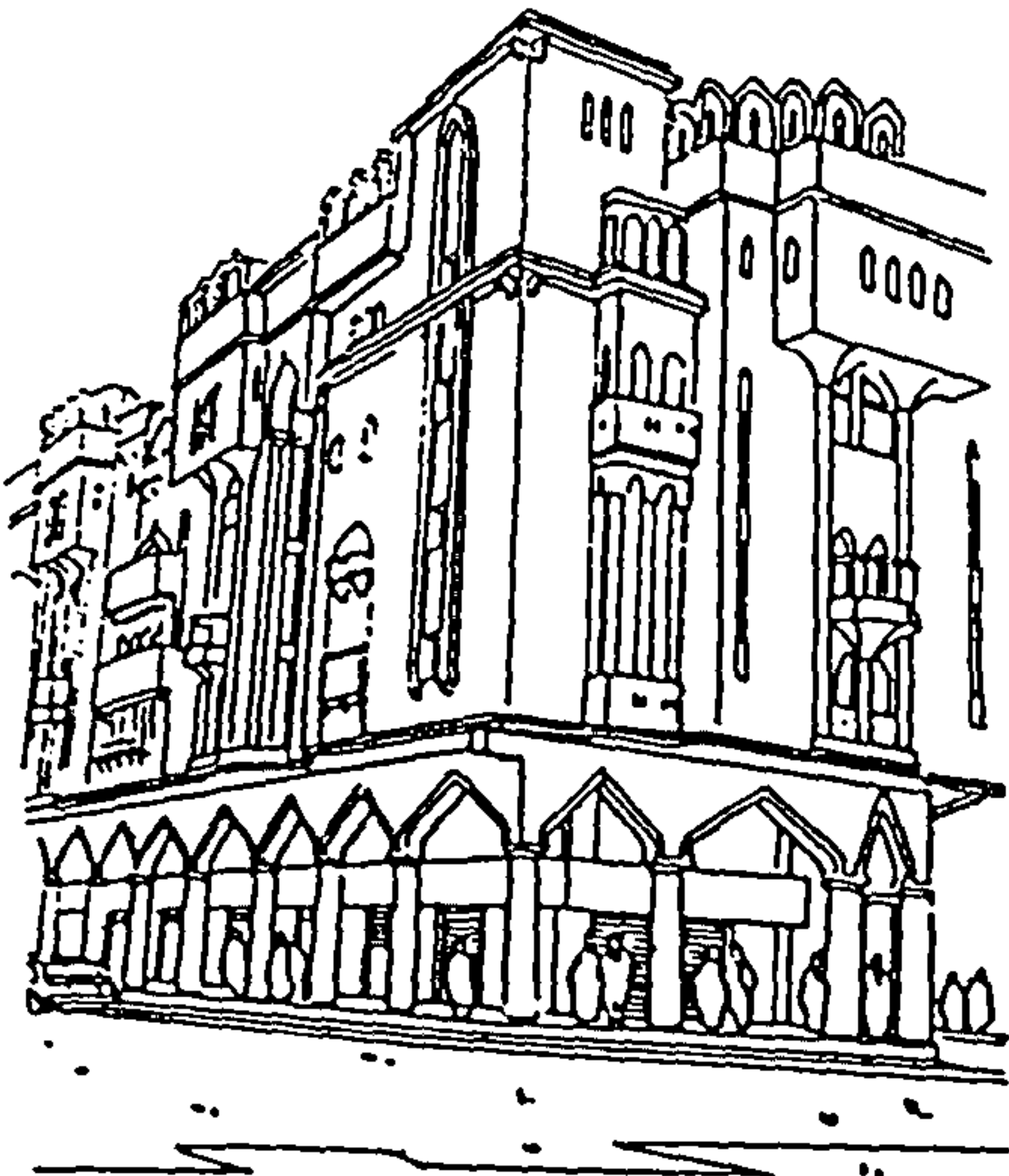
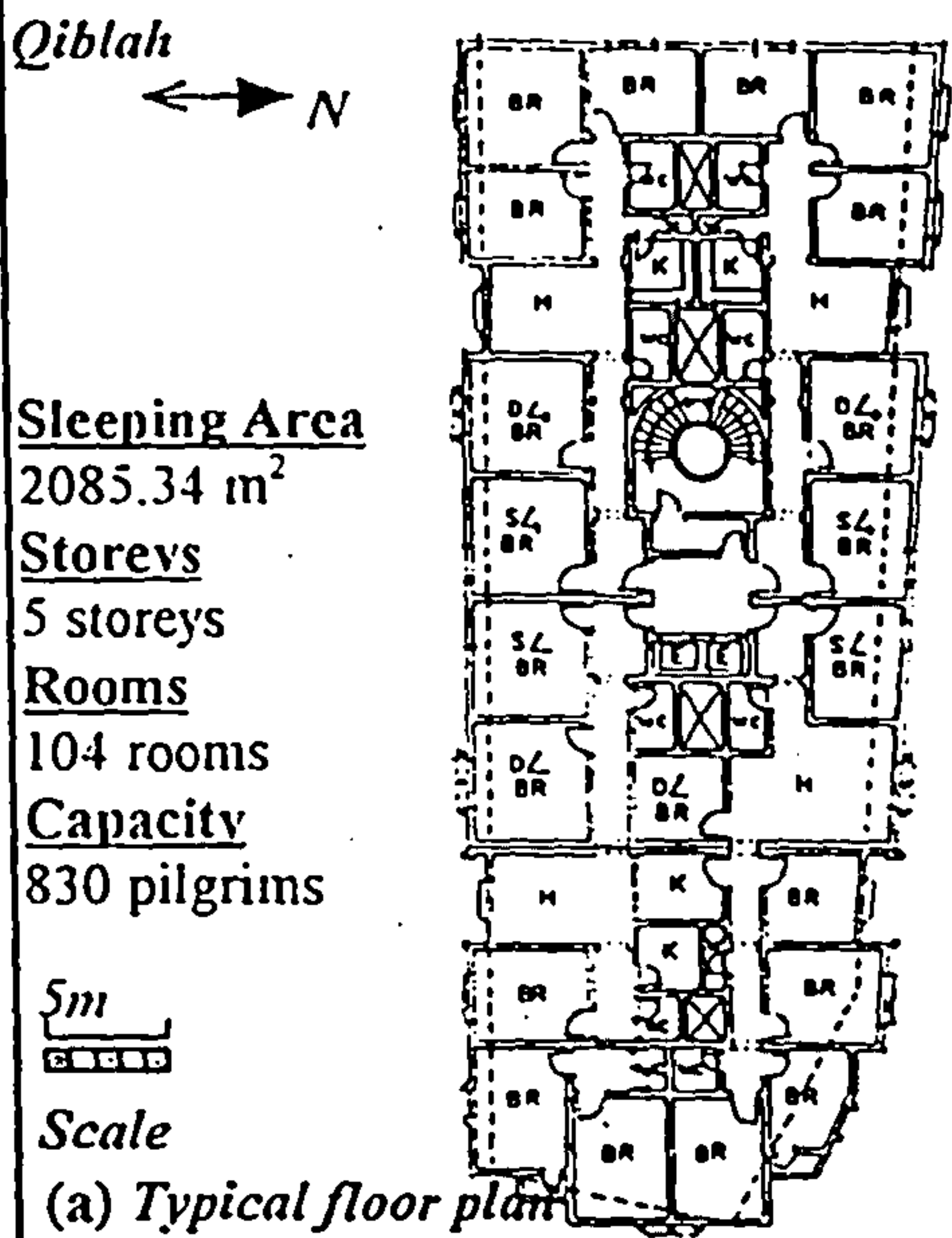


(d) Wall mounted electricity meters system (commonly for all building)

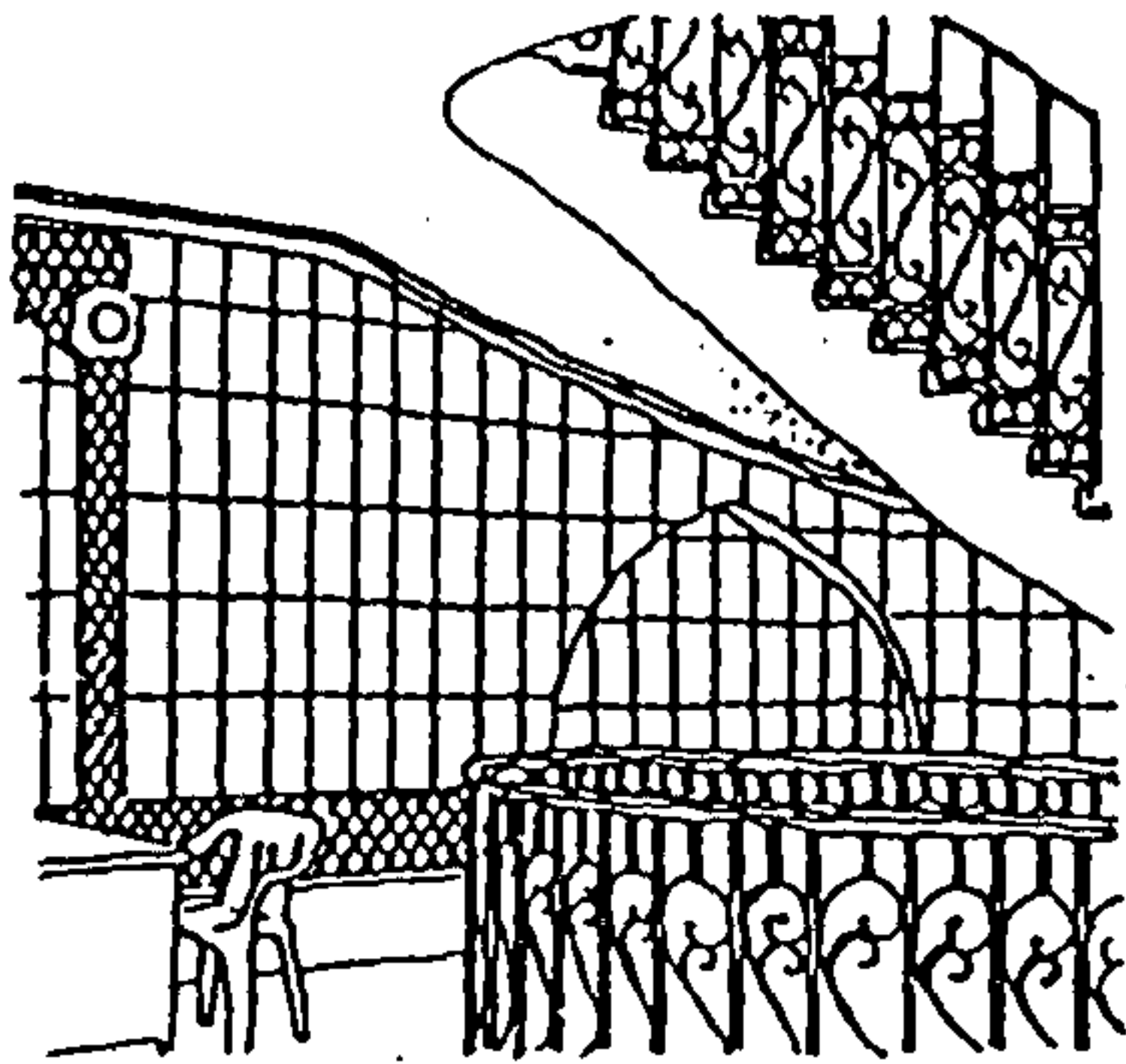
S.40 Building Number 10/5

Building No. 10/5 “ Liela Aselan Building” is a commercial / residential building. The ground floor is occupied by individual shops which are setback using the arcade system. The floors above are typically which divided into 4 apartments. Most of the apartments, contain: 1) the men’s quarters (sitting room, dining room and men’s toilet) and 2) the family quarters (kitchen, living hall, 3 to 4 bedrooms and two toilets). Due to the long length of the lot compared with its width, these apartments are characterised by long corridors. All the rooms are furnished with sleeping-cushions. The building is highly decorated internally with gypsum and outside by using wooden and steel screening for privacy as well as hiding the air-conditioning units. The decoration shows that it is an apartment building in the form of a palace.(b, c, d, e)

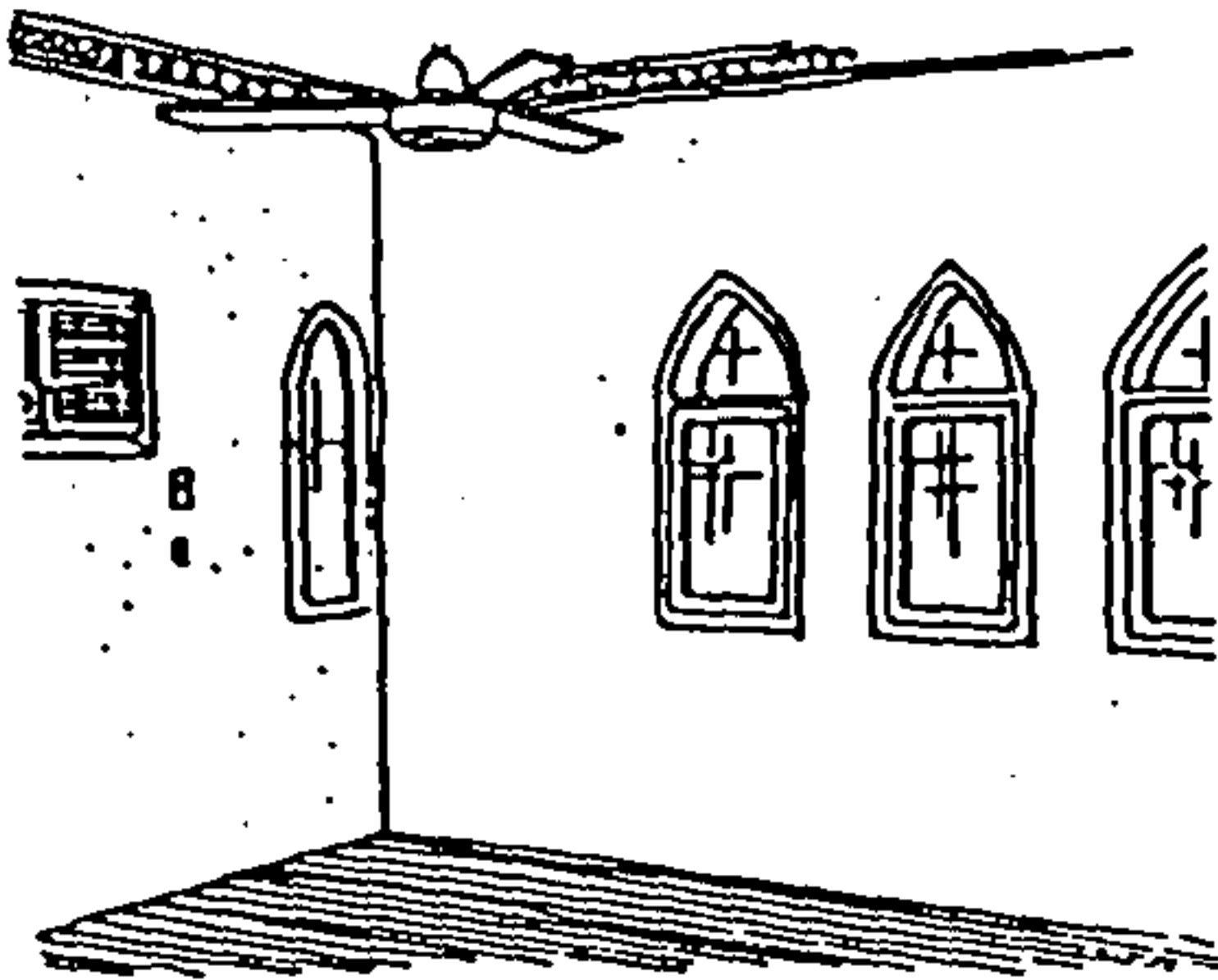
Fig C.40



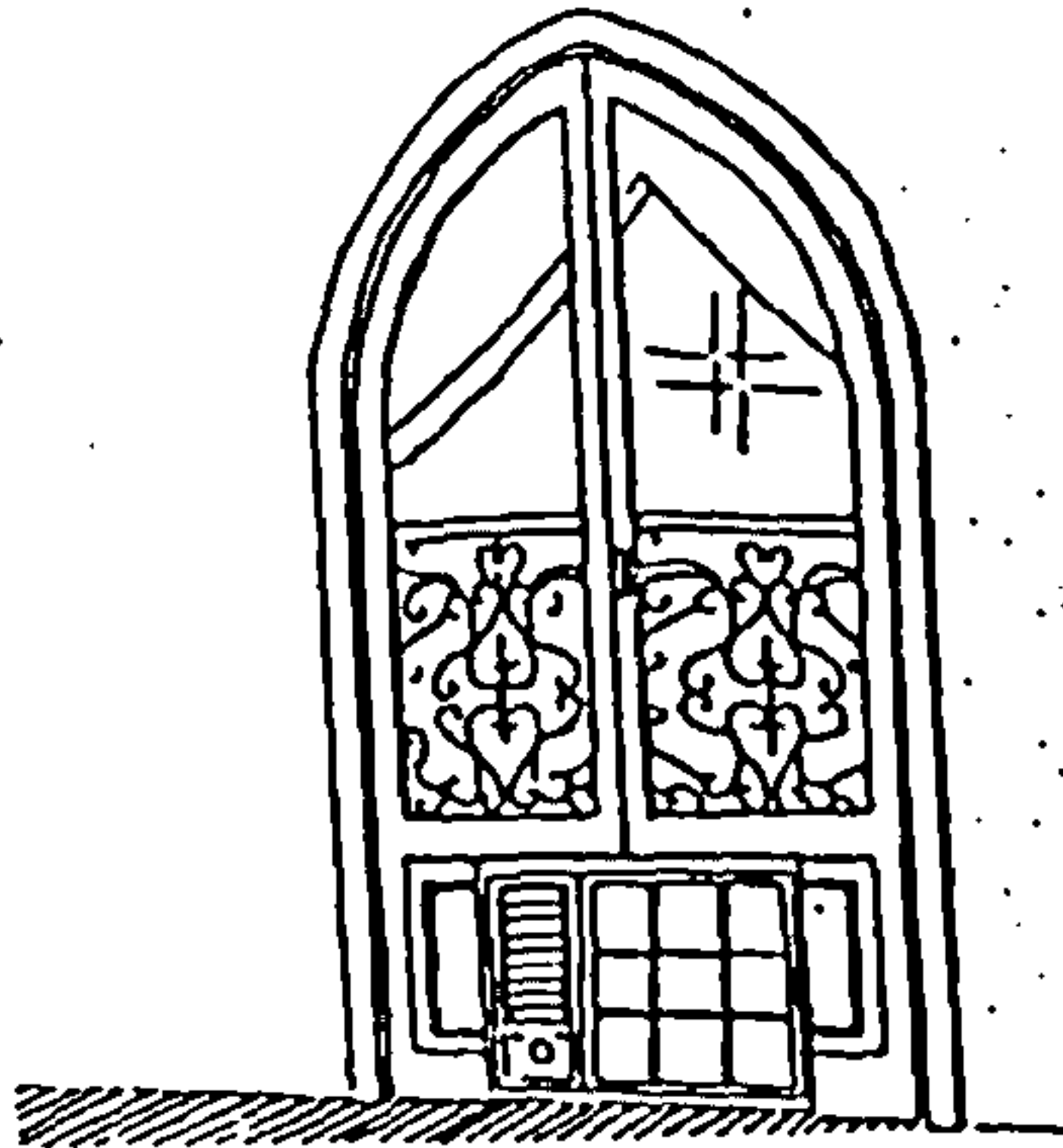
(b) Building exterior view



(c) Reception area- decorated spiral stair case



(d) Typical bedroom - gypsum decoration



(e) Typical window - the outside steel screening hiding the air -condition unit

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